PEOPLE'S INITIATIVES IN PRIMARY HEALTH CARE

Book 4
VILLAGE MEDICAL KIT

Book 5
FIRST AID

Bharat Gyan Vigyan Samithi

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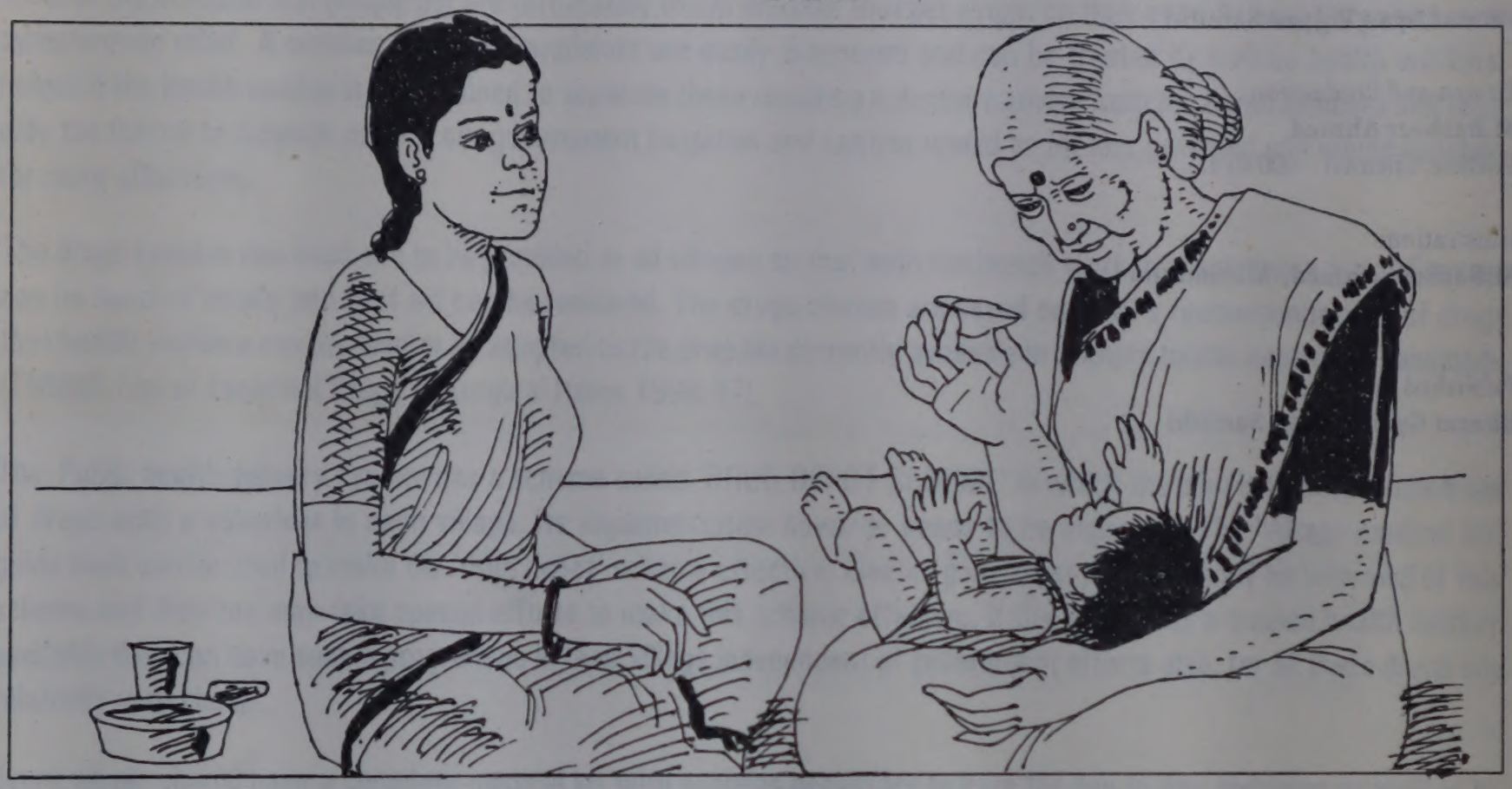

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Authored by
Tamilnadu Science Forum
And
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BOOK 4 - VILLAGE MEDICAL KIT
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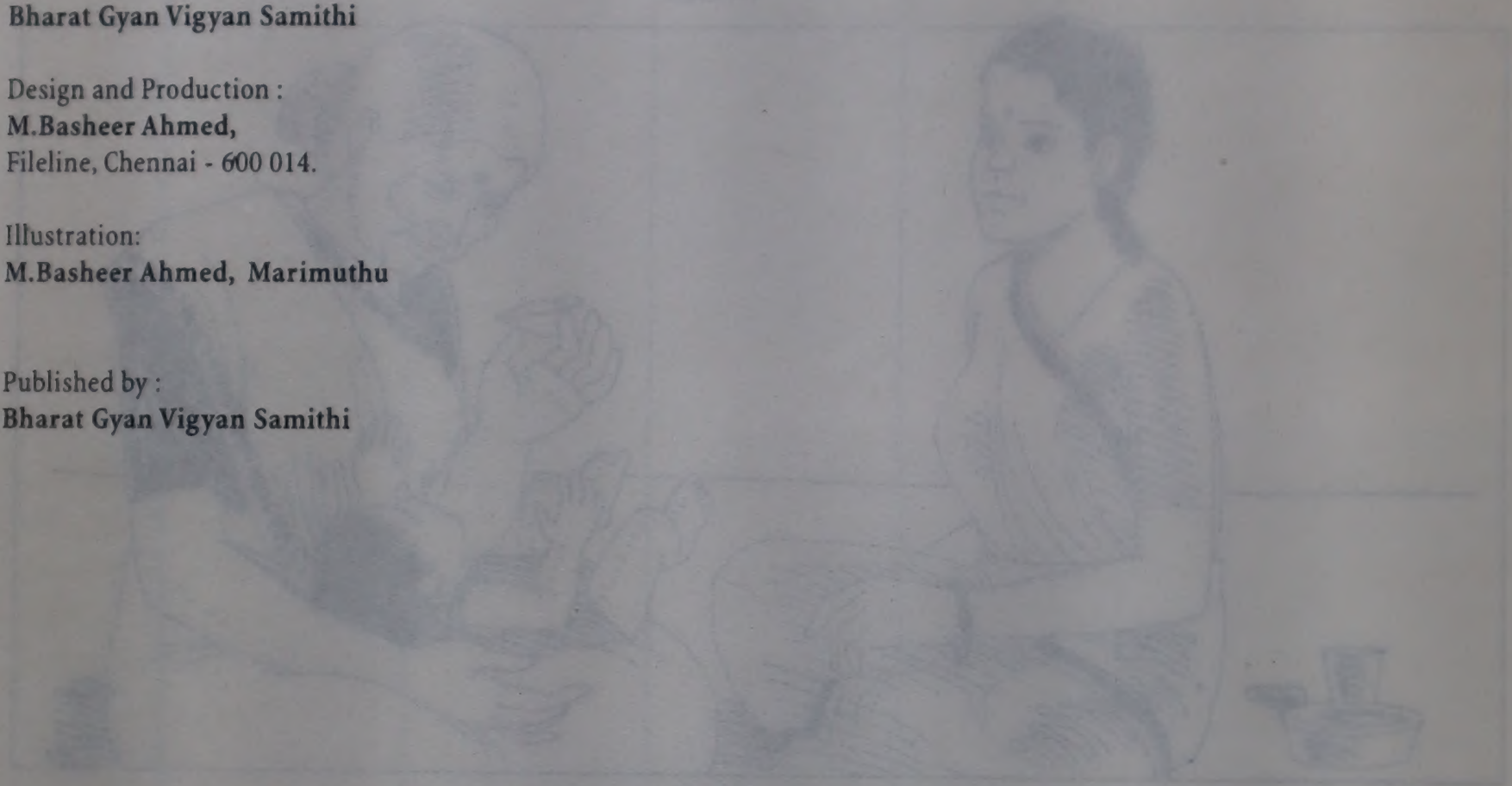

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THE VILLAGE MEDICAL KIT

WHY A VILLAGE MEDICAL KIT?

In the majority of villages today there is no doctor readily available. Even in the government health centre which may be an hour or two away they are there for only a small part of the day. And often there is no transport to reach that centre except about once or twice in a day.

Most of the illnesses that people get are fortunately trivial illnesses that get alright on their own. At best they need some symptomatic relief. A number of other complaints are easily diagnosed and can be treated by trained health workers. Indeed if the health worker is well trained to separate those requiring a doctor's advise from the trivial illnesses and refer only the former to a health centre, our government hospitals and centres would be far less crowded and would function far more effectively.

The drugs listed in this book are to be provided to all villages so that with the health worker's assistance trivial illnesses can be handled locally and first aid can be rendered. The drugs chosen are based on WHO's recommendations of drugs that health workers can administer as adapted to the drug list currently available in Primary health centres in Tamilnadu (TNMSC List of Essential Drugs & Surgical Items 1996-97).

The Public health delivery system has a scheme called 'DRUG DEPOT SCHEME' in which the plan is to keep a small set of drugs with a volunteer in each village. Its implementation however needs to he improved. The 'Village medical kit' guide book can be used to make the 'drug depot' scheme effective. Elected panchayat members may he informed of this scheme and they too may take special efforts to make this scheme effective. If the village has a trained health worker available they can have such a programme in their village independent of government efforts also, for all these drugs are relatively very cheap.

Every village should have a complete medical kit with supplies necessary to care for day-to-day problems as well as to meet a serious illness or an emergency. A responsible person should be in charge of it. This may be a health worker, teacher, storekeeper, or anyone who can be trusted by the community. If possible, all members of the village should take part in setting up the medical kit. Those who can afford should contribute more. But everyone should understand that **the medicine kit is for the benefit of all**-those who can pay and those who cannot.

In many villages there is a health sub-centre. One can ensure that this sub-centre has these drugs and more important that one can access these drugs throughout 24 hours. In case the village health nurse goes out of station she can hand over the kit to the health activists or volunteers trained for this. Of course if there is no sub-centre in a village or if this sub-centre is too far away or this sub-centre lies closed most of the time then we must stock this drug kit in some other accessible place-may be the health activist's home.

On the following pages you will find suggestions for what the medicine kits might contain and how and when to use these medicines. You will want to change these lists to best meet the needs and resources in your area. Although the list includes mostly modern medicines, important home remedies known to be safe and to work well may also be included. A Section on home remedies is therefore included.

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* Most of this guide book is adapted from "Essential Drugs for Primary Health Care - A Manual for Health Workers in South East Asia - SEARO Regional Health Papers No. 16 - World Health Organisation, Regional Office for South East Asia, New Delhi, 1988.

HOW MUCH OF EACH MEDICINE SHOULD YOU HAVE?

The amounts of medicines recommended for the medicine kits are the smallest amounts that should be kept on hand. In some cases these will be just enough to begin treatment. It may be necessary to take the sick person to a hospital or go to the nearby town for more medicine at once.

The amount of medicine you keep in your kit will depend on how many people it is intended to serve and how far you have to go to get more when some are used up. It will also depend on cost and how much the family or village can afford. Some of the medicines for your kit will be expensive, but it is wise to have enough of the important medicines on hand to meet emergencies.

Note: Supplies for birth kits-the things midwives and pregnant mothers need to be ready for a birth-are discussed separately and are not in this booklet.

HOW TO CARE FOR YOUR MEDICINE KIT

1. Caution: **Keep all medicines out of the reach of the children.** Any medicine taken in large doses can be poisonous.

2. **Be sure that all medicines are well labelled and that directions for use are kept with each medicine.** Keep a copy of this book with the medicine kit.

3. **Keep all medicine and medical supplies together in a clean, dry, cool place** free from cockroaches and rats. Protect instruments, gauze, and cotton by wrapping them in sealed plastic bags.

4. Keep **an emergency supply of important medicines on hand at all times.** Each time one is used, replace it as soon as possible.

5. **Notice the DATE OF EXPIRY on each medicine.** If the date has passed or the medicine looks spoiled, destroy it and get new medicine. Some medicines, especially tetracyclines, may be dangerous if they have passed their expiration date.

BUYING SUPPLIES FOR THE MEDICINE KIT

All the medicines recommended in this book are currently being supplied by the government to the PHCs (in Tamil Nadu). The rules, under the drug depot scheme permit them to be given to a village volunteer. However in case we can't get it from the PHC, they can be bought in the pharmacies of larger towns. If several families or the village get together to buy what they need at one go, the pharmacist may sell them supplies at lower cost. Or if medicines and supplies can be bought from a wholesaler, prices will be cheaper still.

If the pharmacy does not supply a brand of medicine you want, buy another brand, but be sure that it is the same medicine and check the dosage. Read the fine print on the bottle or box to make sure it is the right medicine you want.

When buying medicines, compare prices. Some brands are much more expensive than others even though the medicine is the same. More expensive medicines are usually no better. When possible, **buy generic medicines rather than brand-name products,** as the generic ones are often much cheaper.

GIVING MEDICINES IS NO SUBSTITUTE FOR TREATING A PATIENT:

Whenever someone comes with a health complaint, it becomes simple to just take out and give him a pill from the drug kit. Indeed the public may also demand this and get angry if it is not given. Yet quite often such a pill is not necessary or even if necessary does not form the main part of the treatment.

Thus a woman with frequent headache may be getting it due to loss of sleep and lot of mental tension. If we talk to her and explain this her headache can be cured. A pill gives only temporary relief.

Or take a malnourished child. The mother is happy if you give some vitamin syrup or tablets and anti worm tablets. No doubt the tablets or syrup in necessary but the main treatment does not lie in this. It lies in being able to talk to the mother, understand why the child has malnutrition and advise her on all those matters -feeding, disease prevention, child care etc.-which will make the child well. Giving medicines is only a small part of the treatment. Do not let giving medicine become a substitute for giving treatment!

GIVING TREATMENT IS NO SUBSTITUTE FOR PREVENTING DISEASE:

When a person comes for treatment, not only do we need to treat, we must tell her how that problem could have been prevented. A child comes with diarrhoea-if we just given an ORS packet - nothing much is achieved. We need to tell the mother how to give ORS and Why. We need to tell the mother how to feed the child during and after the diarrhoea, But over and above all this we need to explain to the mother how diarrhoea occurs and how this can be prevented. Instead of doing all this, just to give an ORS packet would be of little use. This is true for all medicines in this kit.

1. PARACETAMOL

How does it help?

It relieves pain such as body ache, head ache, muscle pain, joint pain.
It lowers fever without correcting the cause of fever.

When should it be used?

1. To relieve pain
2. To relieve fever
3. To relieve symptoms of common cold and influenza

Note: It is not so useful in rheumatic fever or in pain associated with swelling. Unlike aspirin it does not cause much stomach pain or vomiting and can be used even if aspirin for this reason cannot be used.

How is it supplied & How is it given?

Tablet: 500 mg
Syrup: 125 mg in 15 ml (one teaspoon)-for children
To take orally:
Take with lots of water, better on empty stomach

AGE	DOSE	IN teaspoon	IN tablets	No. of Times
2-6 months	50-100 mg	$^1/_2$	-	As required. Upto 4 times a day
1/2-1 year	60-120 mg	$^3/_4$	$^1/_4$	As required. Upto 4 times a day
1-6 years	120-250 mg	$1^1/_2$	$^1/_4$-$^1/_2$	As required. Upto 4 times a day
6-12 years	250-500 mg	-	$^1/_2$-1	As required. Upto 4 times a day
Adults	500-1000 mg	-	1-2	As required. Upto 4 times a day

Side-effects

Very few: Hence preferred. Large doses (about 20 tablets) damages the liver. Do not use for more than 7 days at a time.

2. ASPIRIN

How does it help?

ASPIRIN (acetyl salicylic acid) relieves pains such as body ache, headache, muscular pain, pain in the joints. It also lowers fever without correcting its cause. It is very useful in rheumatic fever. This usually occurs in children and is associated with swelling and pain in many joints.

Not useful for severe pain such as that following an accident, burns or a heart attack.

When should it be used?

1. To relieve pain, especially that associated with inflammation (redness & swelling)
2. To lower fever
3. For rheumatic fever (refer to doctor - This is a fever associated with swelling and pain in a number of joints)

How is it supplied and how is it given?

Tablet: 300 mg

Can be crushed and mixed with sugar-water or honey for giving to children

AGE	DOSE	TABLET	
1-2 years	50-100 mg	$^1/_4$ - $^1/_2$	repeat every 8 hours: if necessary
2-6 years	300 mg	$^1/_2$	repeat every 8 hours: if necessary
6-12 years	300 mg	1	repeat every 6 hours: if necessary
Adults	300-1000 mg	1 - 3	repeat every 6 hours: if necessary

Side effects

Nausea, burning sensation in stomach; in some persons vomiting

Precautions

1. Avoid giving to children especially, those below 1 year of age or those with influenza or chicken pox. Use paracetamol instead.
2. Avoid giving to person with nausea or stomach pain.
3. Do not give for more than a week at a time. Refer to doctor.
4. Avoid those who in past had a bad reaction to this drug. Ask about it before giving this drug.

3. ALUMINIUM HYDROXIDE (ANTACID TABLET)

(Alternatively Magnesium Trisilicate or Liquid Antacid)

How does it help?

These drugs neutralize the acid in the stomach. They are called antacids. Given orally it relieves pain in the upper abdomen or behind the breast bone which is due to irritation of stomach or excessive acidity or stomach ulcers. The liquid gel is more effective but costlier.

When should it be used?

1. For Treatment of stomach irritation and for stomach upsets after eating certain foods.
2. In large doses over a long period for treating ulcers.

An "ulcer pain" usually occurs in the upper abdomen. It is more on an empty stomach and builds up over one or two hours and then subsides. Sometimes there is no pain but a burning sensation. The pain is relieved by taking food or antacid drugs but comes back after 2 to 3 hours. Often the patient wakes up from sleep with the pain.

How is it supplied & How is it given?

Tablet			
Aluminium Hydroxide (NFI)	500 mg	1-2 tablets	4 times a day
Magnesium Trisilicate	500 mg	1-2 tablets	4 times a day
Liquid antacid	120 ml bottle	3-4 tsp.	4 times a day

There are a number of other antacid tablets and liquid antacids available. Almost all of them have the same efficacy. Liquid preparations are more effective but costlier than tablets.

Side effects

No serious effects. Very safe drug. Aluminium hydroxide may cause mild constipation while Magnesium Trisilicate may cause loose stools to some.

Precautions

- These drugs usually affect absorption of other drugs.
- If the abdominal pain is not relieved or is severe or if it recurs repeatedly ask the person to see a doctor.

4. CHLOROPHENIRAMINE

How does it help?

This is useful in the treatment of allergies. Allergic reactions occur after eating or inhaling or touching certain agents. Patients start to itch, to develop a skin rash in the form of tiny raised red areas, their noses run, the eyes become red. They get breathlessness and develop a wheeze. In a severe attack the blood pressure may drop or the breathlessness may increase to a level as to threaten life. Chloropheniramine gives relief to these conditions. (Though in severe attacks it is not adequate treatment)

When should it be used?

1. To treat any of above allergy. It may be a foodstuff (e.g. fish or yam etc.) or a flower or some cosmetic or some tablet or an insect bite. Only a careful observation and questioning the affected person by the doctor, can identify it.

How is it supplied?

Tablet 4 mg. (for children pheniramine syrup will be an equivalent)

How is it given?

Age upto 1	1 mg.	1/2 tsp or 1/4 tablet twice daily
1-5	1 mg.	1/2 tsp or 1/4 tablet three times daily
6-12	2 mg.	1 tsp or 1/2 tablet three times daily
Adults	4 mg.	1 tablet three times daily

Side effects

Makes patient a bit drowsy or sleepy.

Precautions

- If allergic reaction is severe. Refer to a doctor.
- Patient should not take alcohol while taking the drug. His ability to drive a car or operate a machine may be impaired
- Do not exceed dosage or give beyond 4 days.

5. DICYCLOMINE (10 mg)

How does it help?

It relieves spasms of muscles of the intestine, stomach, urinary tract or uterus. Contractions of these muscles gives rise to colicky pains (like menstrual cramps).

When should it be used?

Most useful for colicky "gripping"-pains due to disease of intestine or urinary tract and menstrual pains.

How is it supplied & How is it given?

As tablets of 10 mg strength.

Adults can take 1 tablet upto 4 times a day.

Children above two years can take 1 to 1/2 tablet when required (but in almost all situations colicky pain in a child is for a doctor to see) upto three times a day. From 6 months to 2 years a child can take about half or quarter of a tablet upto three times a day. These tablets are given for relief of pain and therefore even one tablet is usually enough. When we say upto 3 or 4 tablets a day it means that even if there is no pain relief with this dose a higher dose should not be taken.

Side effects

May cause dryness of mouth. Old people may experience difficulty in passing urine or develop constipation and difficulty in vision. Rarely it causes fever and rashes.

Precautions

1. Do not give to children below 6 months of age.
2. Avoid in old people and those with heart disease, blood pressure, difficulty in passing urine etc.
3. If pain persists or its cause is not obvious, refer to a doctor.

6. SALBUTOMOL
(OR AMINOPHYLLINE)

How does it help?

This drug relaxes the muscles of the respiratory tract and thus relieves the wheezing and difficult breathing seen in asthma patients. In asthma, the breathing tubes become narrow, causing the wheeze and difficulty in breathing. Often this narrowing is an allergic response to some food item. Flower pollens etc. In a severe asthmatic attack the skin behind the collar bones and between ribs are sucked in.

When should it be used?

1. In the treatment of asthma. The tablet is taken as soon as attack starts and may be repeated after 6 hours.
2. In prevention of an asthma attack. Often patients know that an attack is coming on. Taking a tablet may prevent the attack.

How is it given?

Age	Dose	Tablets	Frequency
0-2 years	1/2 to 1 mg	1/8 to 1/4	Four times daily
2-5 years	1-2 mg	1/4 to 1/2	three times daily
6-12 years	2 mg	1/2	three times daily
Adults	4 mg	1	three to four times daily

Side effects

May produce fine tremor of hands, headache and sometimes an allergic reactions.

Precautions

If the wheeze worsens despite treatment, or patient becomes blue or exhausted, rush to a doctor.

7. BISACODYL

How does it help?

This drug acts on the intestines and increases the mobility, which relieves the constipation without correcting the cause. Constipation usually results from lack of roughage in food, Inadequate water intake, lack of sufficient exercise, improper place and time to defecate and if there are small fissures and ulcers that make passing stools painful. Our attention must be to managing these problems. However for immediate relief Bisacodyl may help.

When should it be used?

1. In the treatment of constipation.

How is it supplied and how is it given?

Tablet 5 mg

Give 2 tablets at night for adults and 1 tablet for children.

Precautions

- Try bisacodyl only after non-drug measures have failed. Non-drug measures includes asking patient to eat lot of greens or bananas or other vegetables, drink plenty of water and take exercises like walking or jogging.

  If patient has severe abdominal pain and vomiting and/or tightness of abdominal muscles refer such cases at once.

  Don't use it for long - standing constipation. Treat the cause of constipation. Merely relieving it is not enough.

8. ORS *(ORAL REHYDRATION SALTS)*

How does it help?

A person passing frequent watery stools loses a large amount of water and salts from the body. Such loss of water and salt causes marked weakness, sunken eyeballs, thirst and eventually decreased urine output and death.

How should it be used?

1. As soon as diarrhoea starts, especially in children.

How is it given?

ORS contains:
Common salt- 3.5 gms.
Baking Soda- 2.5 gms (or Trisodium Citrate -2.9 gms)
Potassium Chloride -1.5 gms
Glucose-20 gms

To Use Take one litre of clean water, boil and cool it (One litre is about 5 glasses -or use milk or soft drink bottle to measure a litre). To this water add a packet of ORS and stir well. Taste it to see if it is OK.

One must give this fluid each time child passes tools. Do not stop other normal fluids (milk, water etc.). Once child is passing urine freely we know we are giving enough fluids.

Side effects

None. (N.B: ORS is, strictly speaking, not a drug)

Precautions

1. Do not keep a prepared solution for more than a day. Keep covered in a cool place. Prepare with clean utensils and spoons.
2. Educate families to give ORS for a child with diarrhoea without waiting even for the health worker. If ORS is not available they can give dilute rice kanji with salt; or coconut water. Or in glass of water let them mix one teaspoon of sugar and one pinch of salt and give this. Or in one litre of water add 5 teaspoons of sugar and one teaspoon of salt. This home mixture does not contain potassium chloride. So one may give two bananas or 3 cups of coconut water or five tomatoes or two cups of orange juice over the day to supply this potassium.

9. FERROUS SULPHATE WITH FOLIC ACID

How does it help?

This tablet contains iron, which is necessary for producing haemoglobin, which gives red colour to blood. This haemoglobin carries oxygen from the lungs to the tissues. In anemia the patient is pale due to less haemoglobin and becomes weaker and breathless. Giving iron regularly corrects this anemia. Most of those deficient in iron are also deficient in folic acid. Which is also essential for production of blood. Most young women, especially pregnant women have anemia. Remember this tablet corrects anemia but unless the cause of anemia is attended to it will recur.

Foods such as greens and meats are all rich in iron and folic acid. Gur (jaggery) is also a good source of iron.

When should it be used?

1. For treatment of Iron-deficiency anemia.
2. To prevent anemia in pregnant women, to women who have heavy blood loss in menstruation, and in young malnourished children.

How is it supplied?

Tablet: 200 mg of ferrous sulphate and 5 mg of folic acid (a smaller tablet for children is also now available)

How is it given?

Age	Dose of 200 mg	Frequency
0-1	tablet 1/4 tablet	Powder and mix with sweet water
1-5	1/2 tablet	or honey twice daily
6-12	1 tablet	twice daily
above 12	1 tablet	twice daily

Treatment is needed for at least 6 months.

For prevention of anemia in adults-one tablet daily.

Side effects

In a few cases it causes stomach upsets, diarrhoea or constipation and nausea.

Precautions

- If side effects occur, try a smaller dose. One can later increase it gradually. Let these persons take it after food. If still patient cannot tolerate the tablet refer to a doctor.
- Keep away from children. Since it is sugar coated, children may eat it like sweets-but in high doses it can cause death.
- Always refer to find cause of anemia. In most case it is due to hookworm which must be treated.

10. VITAMIN A SYRUP

How does it help?

Vitamin A deficiency is common in malnourished children. This leads to night blindness and more frequent respiratory infections in children. This is seen as a dryness and patch (Bitot's spots) in the eye. Later it may cause total blindness.

Vitamin A is best got from fruits and vegetables which are dark green (like greens) or which when cut are yellowish orange or red. (papaya, mango, carrot, tomato etc.). But to a malnourished child from a poor family, vitamin A syrup may be seen as an immediate measure to protect its sight and its life.

When should it be used?

1. For all persons with signs of vitamin A deficiency (night blindness, Bitot's spots, dryness of eye etc.)
2. To prevent vitamin A deficiency in all malnourished children (grade I to IV)

How is it supplied and How is it given?

Supplied as a flavoured syrup in 100 ml bottles with a concentration of 1 lakh i.u. in every ml. A spoon measure of 2 ml is supplied with each bottle.

For preventing deficiency:
Concentrated Vitamin A Solution:

To give 1 teaspoon every 6 months to all malnourished children (Give to all children if possible) above the age of 1 year.

Below 1 Year age -To give 1 teaspoon between 6 to 11 months, usually at time of measles immunization. (Total nine doses must have been given by the 5th birthday).

Capsule Vitamin A (1,00,000 i.u. - i.e. one lakh units)

To give capsules snip its end with clean scissors or clean blade and squeeze the solution into mouth of infant.

For treatment of night blindness or other Vitamin A deficiency symptoms:

Give one tea spoon at once (i.e. 2 lakh units). followed by another dose of one teaspoon two weeks later. Then continue with one dose every 6 months.

Side effects

Safe at the above doses.But in large doses it can cause loss of appetite and weight and dry itching skin.

Precautions

1. Never exceed recommended doses. Remember the doses are recommended in special 2 ml teaspoons supplied along with the bottle not in the regular teaspoons.
2. Store in cool dark room, and protect from direct sunlight.
3. A bottle once opened must be used within 6 to 8 weeks. If the bottle is unopened and well stored it lasts for a year.
4. Vitamin A syrup is only a temporary measure. Better diet – greens and reds – is the most important step.

11. B-COMPLEX TABLET
(OR MULTIVITAMIN TABLET)

How does it help?

Vitamin B complex is naturally present in whole cereals, unpolished rice, beans, groundnuts, leafy vegetables milk etc. In some people due to a poor diet the deficiency occurs. Only rarely will there by B complex deficiency without other vitamins also being deficient. Typically the lips and tongue becomes red and sore. Lips show cracking especially at the angles and there is general weakness, body tingling and pain.

When should it be used?

1. To treat persons with signs of Vitamin B complex deficiency.
2. To prevent B complex deficiency in malnourished children.

How is it supplied?

As tablets (with *B_1 - 5 mg; B_2 - 10 mg; B_6 - 5 mg)*

How is it given?

One tablet daily is enough for prevention. Treatment of overt deficiency requires higher doses.

Side effects

Negligible.

Precautions

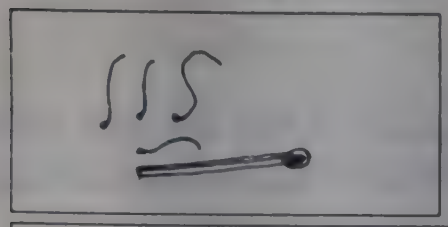
1. Protect the tablets from sunlight and store in a cool place.
2. Emphasis must be on changing the dietary pattern (e.g. drinking the kanji of parboiled rice, adding groundnuts and milk to diet) rather than on tablets.

12. MEBENDAZOLE

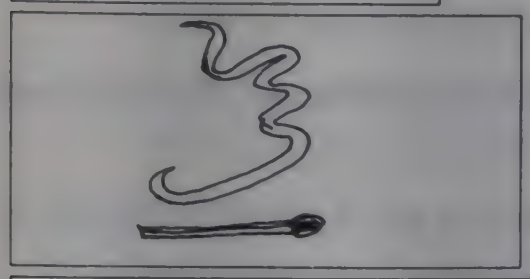
How does it help?

Mebendazole acts on roundworms, pinworms and hookworms. It is also effective against whipworms and tapeworms.

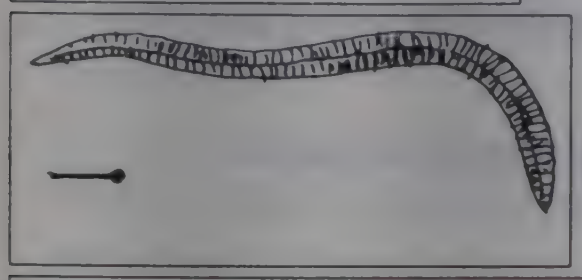
When should it be used?



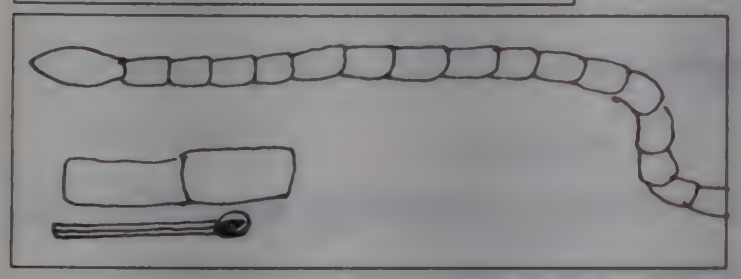
Pin worms - 0.5 to 1 cm long : found in stools more in children. Causes fever and itching.



Whip worm - 3-5 cm long - thin



Round worms - 15-20 cm long - 0.3 to 0.5 cm thick : one or two is seen passed in stools.



Tape worm - Segmented - 1-3 cm long - The whole worm can be even 10 to 30 feet long but is passed out as 1 to 3 cm white flat segments.

1. When there is a history of passing worms:
2. When there is anemia: especially in children; or in adults with no obvious source of blood loss.
3. In malnourished children, especially those with potbellies and poor appetite, abdominal pains etc.

How is it supplied & How is it given?

- Mebendazole comes as 100 mg tablets. One tablet twice a day for three days is to be taken. Albendazole is available as 400 tablet. Just one tablet would be equally effective. (One tablet of albendezole at present costs twice as much as 6 tablets of mebendazole!
- For children below 2 years just give one dose (2 tsp) of Albendazole syrup. (one teaspoon of albendazole syrup contains 100 mg of albendazole). Mebendazole is not advised. Below 1 year do not treat for worms. Show to a doctor.

Side effects

Safe. Occasionally causes a rash.

Precautions

Avoid mebendazole in children below 2 years. Use albendazole syrup instead in the age group of 1 to 2 years. Avoid in pregnant women.

13. CO-TRIMOXAZOLE

How does it help?

Co-trimoxazole is a mixture of two drugs:

It has 5 parts of sulphamethoxazole and one part of trimethoprim. It cures infections caused by certain bacteria but is not effective against infections like tuberculosis or leprosy or those caused by viruses like measles.

When should it be used?

- **In acute respiratory infection:** These patients have fever, cough and yellowish sputum. If they also have rapid breathing and chest indrawing it is probably pneumonia. If there is sore throat and difficulty in swallowing it is likely to be tonsillitis.
- **In treatment of acute dysentery:** The person passes liquid stools with lot of blood and mucus in it. May have fever and abdominal pain also.
- **In boils, abscesses and skin infections:** Especially where penicillin is not possible to give or patient is allergic to it.
- **In urinary tract infections:** Person has fever, pain in groin and burning sensation while passing urine. Needs plenty of water with this tablet.

(There are many other indications but health workers will largely be confined to these four situations)

How is it supplied & How is it given?

It is supplied as tablet with 400 mg of sulpha and 80 mg of trimethoprim.

Age	Trimethoprim-dose	Tablets	Frequency
0-1	20 mg	1/4	Crush, mix with sugar, water - twice daily
1-5	40 mg	1/2	" " "
6-12	80 mg	1	twice daily
Adults	160 mg	2	twice daily

(N.B.: Doses are given for the usual tablet size. This drug is supplied in other tablet sizes also. So Please check the amount of trimethoprim in each and go by that.)

Side effects

Occasionally produce skin rash, or ulcers and swelling inside mouth & lips or affects liver or blood.

Precautions

1. Use only when must and enquire whether earlier there has been a reaction to this or any other sulpha drug.
2. Not to give in pregnancy or first 6 week of life or in jaundice.
3. Patient must take tablets for four days at least.
4. In most of these indications treat only if a regular doctor cannot be visited. If no improvement in four days, insist on meeting a doctor.

14. PENICILLIN

How does it help?

This drug kills certain type of bacteria and cures diseases caused by them. It does not act against bacteria that cause urinary tract infection or dysentery, against all viruses nor against tuberculosis, leprosy etc.

When should it be used?

1. In tonsillitis with fever (The glands in throat are red and swollen with sore throat and difficulty in swallowing). Note: Diphtheria should be excluded.
2. In skin infections associated with pus.
3. In acute respiratory infections.
4. In a number of other infections like sexually transmitted diseases, or ear infections, penicillin needs to be given but only as an injection and that too by a doctor.

How is it supplied?

As tablet of phenoxymethyl penicillin of 250 mg each.

How is it given?

For adults 2 tablets, every 6 hours may be taken orally. For children of 6 to 12 years one tablet every 6 hours and below that half a tablet every 6 hours is advisable.

Side effects

Very rarely it causes a rash (Serious side effects occur more with injections, not with tablets).

Precautions

1. Always ask whether there is a history of allergy and do not try penicillin if it is there.
2. If a person develops a rash or other reactions stop the drugs and warn the patient.

15. METRONIDAZOLE

How does it help?

Metronidazole kills intestinal parasites called amoebae and giardia and also a parasite called trichomonas that may infect the vagina.

When should it be used?

1. In amoebic dysentery: Person passes semisolid stools and has a bit of blood or mucus in it. There is a lot of abdominal pain. Fever may or may not be there.
2. In giardiasis: Increased frequency of stools, lot of stomach rumbling and gas, upper abdominal pain, no blood but some mucus in stools.
3. In women with vaginal discharge that is of bad odour, frothy and yellowish-white and local itching.

(There are many other indications like liver abscess, infected wounds etc for which doctors use this drug)

How is it supplied?

As a tablet with 400 mg of metronidazole in it. For children a liquid preparation with 100 mg per tsp is available.

How is it given?

for dysentery

Age	Dose	Teaspoon	Tablet	
1-2	100 mg	1	-	To be taken
2-6	200 mg	2	-	three times
7-12	200 mg	-	1/2	daily for
Adults	400 mg	-	1	5 to 10 days.

(N.B: Books often recommend 2 tablets per dose for adults but at this dose side effects can be very high).

Side effects

It is very bitter and spoils one's taste. To some it can cause a stomach upset, nausea or vomiting, but this is very mild.

Precautions

1. Inform patients about the side effects before hand and give the tablets after food.
2. If a person on this drug takes alcohol, very unpleasant and sometimes dangerous side effects occur.

16. CHLOROQUINE

How does it help?

Chloroquine acts against the parasite that causes malaria. A patient with malaria has repeated attacks of high fever with rigors. In between these attacks the temperature in normal. Most times chloroquine suppresses this parasite. Sometimes it does not.

When should is be used?

1. When the blood smear done in a fever cases shows malaria parasite.

2. Whenever there is high grade fever with rigors over five days duration then malaria is to be suspected and drug given. If a doctor is available one must visit him especially if fever has not subsided with chloroquine.

How is it supplied?

As a tablet 150 mg chloroquine base in it. For children upto 1 year of age a syrup with 50 mg per tsp is available.

How is it given?

Age	Dose	
Upto 1 year	Day 1	1 1/2 tsp initially
	Day 2 & 3	1/2 tsp on each day
1-6	Day 1	1 to 2 Tablets initially & 1 tablet 6 hrs later
	Day 2 & 3	1/4 - 1/2 tablet each day (1 tab = 3 tsp syrup)
7-12	Day 1	2 tablets initially & 1 tablet 6 hrs later
	Day 2 & 3	1 tablet on each day
Adults	Day 1	4 tablets initially & 2 tablets after 6 hrs
	Day 2 & 3	2 tablets on each day

Side effects

Very bitter, causes stomach upset, nausea, vomiting and rash

Precautions

-Get a blood smear done before giving the drug if it is possible

- Given only after food

- If response is not immediate i.e. fever does not subside within a day or if the patient becomes drowsy or delirious take to a doctor.

17. BENZYL BENZOATE APPLICATION

How does it help?

This drug when applied to the body kills the itch mite a tiny insect that causes scabies. The itch mite usually resides between the fingers on the wrist flexures and in between the buttocks. It is also found in palms, soles, breasts and the penis. It cause small sore with intense itching which is usually waist at night Following scratching these sores get infected with the formation of pus. Scabies is a disease caused by unhygienic conditions and spreads through close body contacts and infected clothes Cleanliness especially regular baths and well washed clothes is the best preventive.

When should it be used?

1. To treat scabies (also has some effect against body lice)

How is it supplied & How is it given?

This is supplied in 450 ml bottles as or emulsion with 25 per cent benzyl benzoate in it. For children it has to be diluted with equal volume of water (1:1). For infants below one year mix it with three parts of water (1:3).

Apply this liquid all over the body below the neck (preferably after a both in warm water, when the skin is dry). This should be left for 24 hours. If the child has to eat, its hands can be washed, but after eating the liquid should be reapplied on the hands. Then without a bath apply it all over again and wait for another 24 hours. Then wash it off with a bath.

Side effects

Irritant to the skin. If it gets into eyes it can cause redness and severe irritation.

Precautions

a) All persons in the family especially those sharing the bed should be treated at the same time

b) If the patient also has skin infection and pus treat with oral penicillin or co-trimoxazole first.

c) Warn patient that the itch may take three more weeks to get relieved. This application need be repeated only afterwards if needed.

d) All clothing and bedding in use by patient must be disinfected in boiling water and airing in the hot sun.

18. WHITEFIELD'S OINTMENT

How does it help?

This is a mixture of benzoic acid (6 per cent) and salicylic acid (3 per cent), which is used to treat fungal infections of the skin hair and nails. Typically the fungal infections that respond to this ointment produced typical ring-like (circular or annular) patches. The border of such a patch is raised and reddish as compared to the central part. The border is also very itchy. There may be oozing of fluid and scale formation. This border is grows outwards like as an expanding ring and may even become 10 cm big. Most common sites are in moist areas - armpits, waist, under the breast, groin, buttocks and back. When it affects in between toes that space becomes whitish and sodden, worsening on contact with water. On the head it causes hair to be lost in pattern.

When should it be used?

a) For fungal infection of the body and toes

Not effective for infection of hair and nails.

How is it supplied & How is it given?

Available as an ointment, it may be rubbed in twice daily for four weeks or even longer. Before applying it wash the area with soap and water and dry it.

Side effects

Rarely, Mild irritation and allergy. A burning sensation.

Precautions

a) Do not let it come in contact with eyes.

b) Infected clothes, combs etc transmit the disease. Wash them well in boiling water.

c) Personal hygiene is the best preventive and must be stressed.

19. CETRIMIDE

How does it help?

This is antiseptic that is applied to the skin. It acts against many bacteria but is not effective against fungal infection.

When should it be used?

1. Used to treat superficial skin infections like ulcers, abrasions boils etc.

2. Used as an antiseptic solution to clear the skin before surgery or the vulva and perineum before labour.

3. It can be used for washing hands before conducting delivery etc.

How is it supplied & How is it given?

Available as an ointment or as a solution to be applied on the skin

A 0.5 per cent solution is best for use for cleaning the skin. For bathing babies the above solution can be diluted with equal volume of clean water to give a 0.02 per solution. This is also used for cleansing.

Side effects

Rarely causes rash. The concentrated solution is capable of causing irritation

Precautions

- Do not mix with soap

- Do not use cork in containers

- Do not store diluted solution for more than 2 days and store in a cool dry place

- Do not use in ears of patients with perforated ear drum and/or discharging pus form ears. Avoid contact with eyes.

20. POVIDONE-IODINE

How does it help?

This, like tincture iodine is an antiseptic. That is, it destroys many bacteria. But it does not irritate the skin or stain it like tincture iodine does.

When should it be used?

1. Hand washes, mouth washes
2. Cleaning skin prior to surgery, delivery
3. Treating minor abrasions, wounds, burns and skin infections
4. Treating trichomoniasis (a disease that causes "white discharge")
5. Treating ring worm

How is it supplied & How is it given?

Available as a 5% solution and as a 5% ointment. For the treatment of skin infections, burns, wounds this will be enough. (Apply undiluted on the infection or wound, twice a day). For surgical conditions, apply on skin undiluted before and after surgery). This is not to be taken orally.

For "white discharge" a 200 mg tablet to be kept in the vagina twice daily for two weeks is available. This is known as a pessary. This is not to be taken orally.

Side effects

Some patients develop allergy.

Precautions

- Do not use for extensive burns or in pregnancy or where there is a history of allergy. Avoid use while breast feeding.
- As cetrimide is cheaper, in most situations one would prefer that.

21. GENTAMYCIN-EYE/EAR DROPS

How does it help?

This is an antibiotic that acts against many types of bacteria. In this preparation it is used locally as eye drops or eye drops.

When should it be used?

In acute eye infections associated with redness, pain and discharge from the eyes.

How is it supplied & How is it given?

In a small bottle, with a dropper.

Make the patient lie down or sit down with neck bent back wards. Lift the upper eye lid and put in 1 or 2 drops over the eye and then close the eye. During the first day one may need to put the drops hourly.

Side effects

Quite safe. This is **not** meant for oral use.

Precautions

1. Before and after applying the drops wash your hands with soap and water.
2. Use a separate bottle and dropper for each patient.
3. Remember conjunctivitis spreads by the discharge sticking on to hands, towels etc.. So the affected persons should not shake hands or use the same towel that others use. After applying the drops wash one's hands with soap and water.

The other substances that a village drug kit or the village drug depot will have are

1. Bandages, gauze pieces & sticking plasters -their use is described in the first aid book.
2. Mala-D and condoms -their use is described in the book on women's health.

Further if there are many patients with tuberculosis or leprosy, drugs for them may be brought from the PHC and kept here so that patients can take it regularly. The health worker will ensure that they take these drugs regularly.

Similarly patients with diabetes or epilepsy may be referred to the health worker for the daily injection or weekly drug and so on.

This list will also need changes depending on local circumstances. For example, if filariasis is rampant in the village, diethyl carbamazine (hetrazan) should be part of the kit.

Care has been taken to include only those drugs which are available in the primary health centre. Of course if the viliage health activist is unable to get it from there, they can arrange to buy it, as these essential drugs are relatively very cheap drugs.

When buying them, take care. Different companies sell the same drug under different names at various costs. Shopkeepers tend to sell the costlier brands as commissions are more. Make sure you get the cheaper ones but from good companies. For a ready reference to know the fair price, we give the prices quoted at which the Tamilnadu government has bought these drugs. (1997 rates)

Sl. No	Name	Price (1997)	Per tablet cost
1	PARACETAMOL TABLET 500 mg -125 mg/5 ml SYRUP 60 ml-	-Rs 13.20/100 tabs Rs. 3.10/bottle	-13 p/tablet -
2	ASPIRIN TABLET 300 mg	Rs. 8.20/100 tabs	8 p/tab
3.	ALUMINIUM HYDROXIDE TABLET NFI (250 mg) -LIQUID ANTACID	-Rs. 7.70/100 tabs -Rs. 4.80/120 ml	7 p/tab -
4.	CHLOROPHINIRAMINE TABLET 4 mg	-Rs. 4.00/100 tabs	4p/tab
5.	DICYCLOMEIN TABLET 10 mg	-Rs. 7.80/100 tabs	-8p/tab
6.	-SALBUTAMOL TABLET 4 mg -AMINOPHILLINE TABLET 100 mg	-Rs. 9.10/100 tabs -Rs. 11.70/100 tabs	-9p/tab -12p/tab
7.	BISACODYL TABLET 5 mg	Rs. 37.80/100 tabs	37p/tab
8.	ORS packet	DO NOT BUY OUTSIDE (Rs. 1.80/packet)	
9.	FERROUS SULPHATE + FOLIC ACID 60 ml iron+5mg	Rs. 7.80/100 tabs	7 p/tab
10.	VITAMIN A SYRUP	DO NOT BUY OUT SIDE	
11.	-B COMPLEX TABLET -MULTIVITAMIN TABLET	-Rs. 10.00/100 tabs -Rs. 19.50/100 tabs	-10p/tab -20p/tab
12.	-MEBENDAZOLE TABLET -ALBENDAZOLE SYRUP 100 mg/100ml	-Rs. 13.10/100 tabs -Rs. 4.00/30 ml	13p/tab
13.	CO-TRIMOXAZOLE TABLET Trimethosprim 80 mg)	Rs. 36.20/100 tabs	36p/tab
14.	PENICILLIN	Rs. 114.00/100 tabs	Rs. 1.14 tab
15.	METRONIDAZOLE -200 mg -400 mg -SYRUP	-Rs. 17.30/100 tabs -about Rs.25.00/100 tabs -Rs. 3.90/60 ml	-17p/tab -25/tab -
16.	CHLOROQUINE	–	
17.	BENZYL BENZOATE APPLICATION 25% W/V	16.80/50 ml bottle	
18.	WHITEFIELD'S OINTMENT 50gms TUBE	Rs. 5.80/50 gms	
19.	CETRIMIDE -CREAM - 450 gms JAR -TINCTURE-450 ml bottle	 -Rs. 16.70/jar -Rs. 21.40/bottle	
20.	POVIDONE-IODINE-5% SOLUTION -PESSARY 20 mg	-Rs. 39.70/500 ml bottle -Rs. 117.20/100 tabs	 -Rs. 1.17 tab
21.	GENTAMYCIN EYE/EAR DROPS (o.3 mg W/V) 5ml VIEL	Rs. 3.30/5 ml vial	
22.	BANDAGE (90cm x 20m)	Rs. 3.70/m	
23.	ADHESIVE PLASTER	Rs. 37.80/spool	
24.	ABSORBENT COTTON WOOL 700 gms	Rs. 68.60/700 gms	
25.	MALA-D	Rs. 2.00/strip	
26.	CONDOMS	75 p for three	

EIGHT COMMON SYMPTOMS & WHEN TO REFER TO A DOCTOR

(Pain, Fever, Cough, Breathlessness, Vomiting, Diarrhoea, Constipation and Anemia)

PAIN

Why do we get pain?

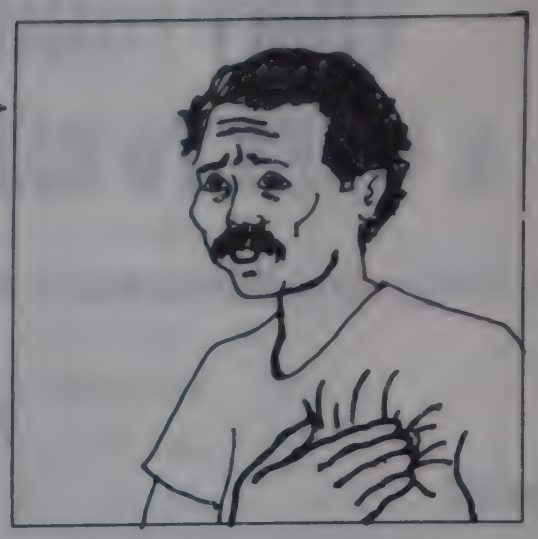
When any body part is overused or injured or diseased, we feel pain. Pain is thus a warning to us of disease. So that we can rest that part and take necessary corrective measures. It follows that all pain is not 'bad'. It serves a purpose. It tells us of the need for rest or indicates an underlying diseases. Treating pain alone is not enough. But if the pain is too much one can get relief from pain relieving drugs.

Types of Pain

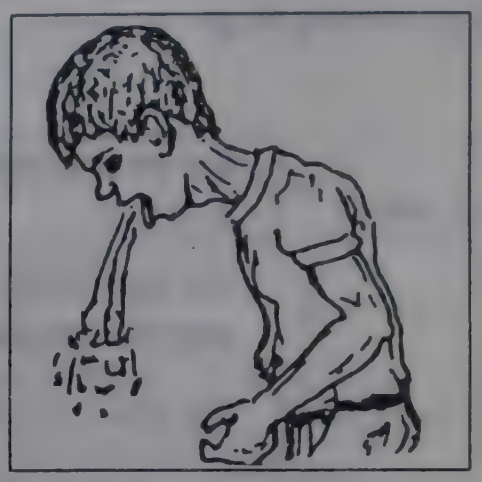
a	Headache or body ache with or without fever	->	Use paracetamol or aspirin	-> Needs rest. (Or sleep or less mental tension etc.)
b	pain due to local infection e.g. boil	->	Use aspirin and warm fomentation	-> If fever or pus is present, antibiotic may be needed.
c	Pain due to injury	->	Use aspirin or paracetamol	-> Attend to injury
d	Ear ache	->	Aspirin. If severe, give paracetamol also.	-> Examine ear. Treat cause. If it is boil or just wax.
e	Abdominal pain, relieved by eating food.	->	Treat with baking soda or antacid (Aluminium hydroxide)	
f	Colicky pain in abdomen. Abdominal muscle not stiff	->	Give dicyclomine.	-> Try to find out cause-refer especially if it recurs.
g	Abdominal pain. diarrhoea or constipation	->	Give dicyclomine	-> Treat diarrhoea or constipation.
h	Pain just before or during menstruation	->	Give paracetamol or aspirin	
i	Pain during urination	->	Plenty of fluids	-> Refer
J	Frequent urination with pain in women	->	Plenty of fluids	-> Refer
k	Joint pains and/or backache	->	Give aspirin or paracetamol + local heat. Do not move affected part. Give rest to back-lie on hard surface.	

When to refer?

1. Severe, sudden chest pain or discomfort, especially in those above 50 years of age.



2. Acute abdominal pain when accompanied by vomiting. Stiffness of abdominal wall.



3. Pain due to severe injuries.
4. Eye pain and ear pain.
5. Any severe pain.
6. Any pain persisting more than three days.
7. Any headache associated with vomiting or mental changes or changes in consciousness.

Precautions.

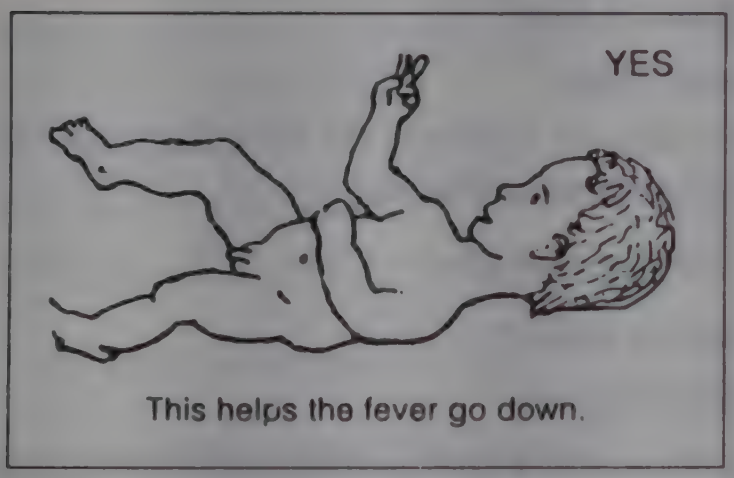
1. Do not use aspirin for abdominal pain or those with nausea and vomiting.
2. In most situations, one must ensure an early referral especially if it does not cure within three days or if one of the above features are present.

FEVER

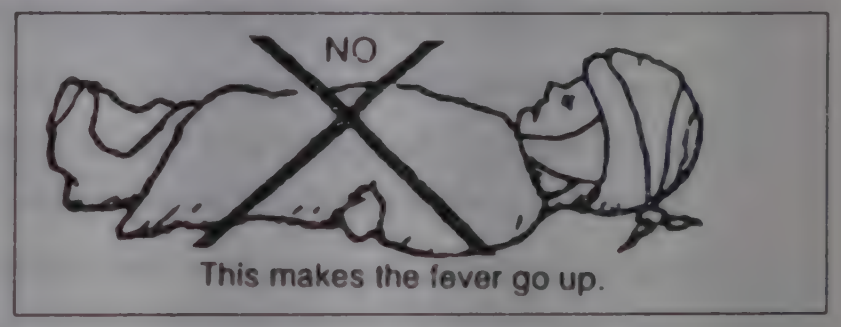
Fever is usually a symptom of an infection. It is in a sense a sign of the body trying to overcome the infection. Since it causes discomfort we treat fever but the aim must be to find out what infection is causing the fever and to treat that. Very often fever subsides by itself in 3 to 4 days. These self limiting fevers are generally caused by viruses. All other fevers need treatment.

General guidelines.

1. Advice rest in bed as long as there is fever.
2. Give plenty of fluids to drink-water, rice water, soup, buttermilk etc.
3. Meals should be light. Avoid oily, spicy food. But do not starve the patient.
4. Record the fever using a thermometer. If it is more than 34 degrees Celsius, there is fever. If it is more than 39.5 degrees, then one must sponge the patient with tepid water to lower the temperature and refer the patient.
5. If patient is uncomfortable or has body ache or head ache give paracetamol thrice a day.
6. Undress the patient. Small children may be undressed completely. Never wrap the child in clothing or blankets.



This helps the fever go down.



This makes the fever go up.

Types

1 With head ache, body ache & running nose as in common cold or influenza.	——>	Give paracetamol.
2. With marked rigors and temperature coming down periodically by itself with profuse sweating	——>	Use chloroquine (Malaria likely)
3. With cough and sputum and sore throat or mild difficulty in breathing.	——>	Use Penicillin or Cotrimoxazole (respiratory infection likely) as well as paracetamol. Refer if cough or difficulty in breathing persists or increases
4. With yellow eyes and dark coloured urine.	——>	Jaundice; Refer:Avoid oily foods.

5. With signs of skin infection like abscess	→	Give cotrimoxazole or penicillin and refer.
6. With frequent urination and pain while urination or pain in loin	→	Urinary tract infection. Give co-trimaxazole-Refer.
7. With sore throat and cough in children	→	Give paracetamol and wait. Refer if no improvement,
8. With rash and joint pain	→	Aspirin and refer. (may be rheumatic fever)
9. With history of abortion or child birth in last 2 weeks, and pain in lower abdomen or foul vaginal discharge	→	Refer at once.

When to Refer?

- Refer all fevers after 3 days if fever still persists despite above measures.
- Even before 3 days one must refer if one sees that
  a. Patient is **drowsy** or **confused** or **incoherent** or **unconscious** or has fits.
  b. If there is **severe head** ache and **vomiting** (with stiffness of neck)
  c. If patient is **very ill, too weak to eat** or drink or is **dehydrated.**
  d. If child has **rapid breathing** (over 40 breaths/minute or above for 1 year olds and above 50/minute for infants below 1 year old) or **chest indrawing** or there is **great difficulty** in breathing.
- Fever lasting more than a week-with no other symptoms, one must think of:
  a. Typhoid (patient is very sick, headache or diarrhoea may be present)
  b. Tuberculosis (cough may or may not be present), fever is low grade.
  c. Malaria (rigors and sweating often present periodic fever, i.e. febrile spells interspersed with normal periods).
  d. Filaria (often there is painful testicular swelling in males)

There are many other possibilities too.

COUGH

Why do we cough?

Most types of cough do not require drug treatment. Basically cough cleans the windpipe throwing out irritating material which may reach it from outside or is produced locally. Therefore cough is a friend, not an enemy. Some of the cough is due to allergy. Some common irritants are smoke, dust particles, pollen grains, germs.

General guidelines.

1. Try to avoid the irritants. Not suppress the cough.
2. Cold dry air worsens cough. Warm, humid air is beneficial. Simple steam inhalation, and lots of warm fluids to drink provide the best relief. Few drugs are any better than this.
3. In case there is plenty of sputum, encourage patient to cough voluntarily. The sputum must came out.

How to treat?

If the cough is dry (i.e. with out sputum) and

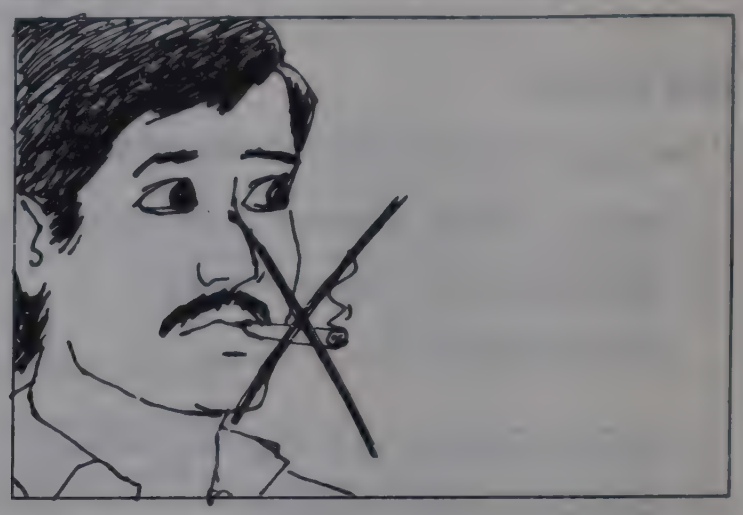
a there is no fever, patient is not ill	——>	Avoid irritants, give steam inhalation.
b there is history of allergy, running nose, patient not ill.	——>	Give Chlorpheniramine. (This can make patient sleepy). Ask patient to avoid allergens.
c repeated attacks, with wheezing, no fever	——>	Give salbutamol
d with fever, rapid breathing, chest in drawing	——>	Give cotrimoxazole or oral penicillin **and refer**
e wheezing like asthma but with fever, loss of appetite, malaise	——>	Refer to doctor.

If the cough is with sputum, then:

a if sputum is yellowish, pus like and there is fever-suspect acute respiratory infection.	——>	Refer (one can start co-trimoxazole if one expects delay in reaching a doctor)
b If there is blood in sputum and /or irregular fever-suspect tuberculosis	——>	Refer
c Large quantity of sputum, very foul smelling-suspect lung abscess.		Refer
d Chronic cough with sputum or hoarseness. No fever, may be malignancy or chronic bronchitis-especially if patient is a chronic smoker.	——>	Refer. Advice to stop smoking.

When to refer?

- Any cough that does not respond in a week
- Any case of cough with plenty of sputum as described above.
- Any child with whooping cough.
- Any person looking ill, or is blue and has difficulty in breathing.
- Any cough with blood in sputum or persistent fever.
- Any persistent cough in a smoker. (over 3 weeks)



BREATHLESSNESS

Breathlessness on exercise or at rest is a manifestation of lung or heart disease or of severe anaemia. Breathlessness of sudden onset especially in younger persons is usually due to asthma or respiratory infection or a foreign body in respiratory tract: Acute breathlessness also occurs in heart failure.

General Guidelines.

Ask whether it is sudden or long standing.

If it is sudden or rapid in onset:

a Ask if child became breathless while playing or eating. Suspect a foreign body choking	——>	Invert child by holding it with legs. Give a tap on the back between shoulder blades. If not relieved rush to a doctor.
b If there is fever and cough with or without sputum. Suspect acute respiratory infection.	——>	Give cotrimoxazole or tab penicillin, with paracetamol for fever. Refer.
c With wheezing, history of asthma, and no fever	——>	Give salbutamol. Add chlorpheniramine if history of allergy is there.
d Chest pain, sweating, giddiness.	——>	Bed rest and refer to doctor at once.

If breathlessness is chronic (long-standing).

a History of smoking, cough with wheezing. Suspect chronic asthma	→	Stop smoking. Give salbutamol and steam inhalation.
b If chest pain, swelling of feet and breathlessness increasing on lying down (may be a known high blood pressure or diabetes patient). Suspect heart failure.	→	Bed rest refer to doctor.
c History of blood loss (may be due to heavy menstrual flow, piles, hook-worms etc.,) and patient looks pale; Suspect anaemia.	→	Start oral iron and refer.

When to Refer?

a. If foreign body swallowed does not come out on coughing: Rush the patient.
b. If heart failure (acute & chronic) is suspected.
c. If chest pain is associated
d. If wheeze is severe, or is not relieved within 12 hours.
e. If sputum is a lot or is purulent with fever
f. Any anaemia that is severe enough to cause breathlessness.

VOMITING

Vomiting occurs due to a wide variety of illness. Some of them are trivial and self-limiting. Some of it is serious and needs immediate attention.

Repeated vomiting causes loss of salt and water. Persistent over days, it results in starvation.

How to treat?

a Vomiting during travel.	→	Advice travel after light meal and not on empty stomach. Pinch of ginger may help.
b Vomiting due to pregnancy	→	Advice plenty of fluids. Reassure the patient. If severe, refer.
c Injuries, sprains, fractures	→	Give rest to injured part. Give paracetamol and refer.
d Vomiting due to eating spoilt, irritating food (or some drugs)	→	Stop food. Give sips of cold water or ORS fluid. It is usually self-limiting.
e Vomiting with diarrhoea	→	See section on diarrhoea.
f Vomiting with high fever	→	See section on fever.
g Vomiting with one-side head ache. Suspect migraine.	→	Rest in bed. Aspirin or paracitomal Plenty of fluids. Refer if persistent.

h	With abdominal pain, distention of abdomen Foul smell of vomit. Suspect obstruction in intestines	-> Refer at once.
i	Chest pain, perspiration	-> Refer at once.

When to Refer?

1. If vomiting is with severe abdominal pain. severe chest pain or headache or with high fever or with convulsions.
2. If the vomit contains blood.
3. IF the vomit is dark coloured and foul smelling.
4. If vomiting is not controlled in a day and patient looks ill.
5. Repeated episodes of vomiting.
6. If there are signs of dehydration or urine output is decreased, despite giving fluids.

DIARRHOEA

(See separate booklet on Diarrhoea)

The bowels move rapidly and try to expel irritant substance or germs. This leads to loose or watery stools. Expelling the germs is good. But along with it water and salt is lost which could be dangerous if not replaced. Usually the diarrhoea itself is self-limiting but the dehydration needs treatment. Malnourished children get diarrhoea easier. Frequent diarrhoea leads to malnutrition.

Treatment

a) Loose watery diarrhoea No blood or mucous No fever	-> Give fluids and ORS (Antibiotics have no role)
b) With watery stools, fever and blood and mucous in stools suspect bacillary dysentery	-> Give plenty of ORS and co-trimoxazole for 7 days
c) With foul smelling stools containing blood and sticky material. Suspect amebic dysentery	-> Give ORS and metronidazole for 5 to 10 days
d) With abdominal pains. Stools have mucous, no blood. not watery but semi solid. Suspect Giardiasis	-> Give metronidazole for 5 days

When to Refer?

1. In severe dehydration
2. If diarrhoea does not stop in 48 hours.
3. In presence of severe vomiting.
4. If there is blood and mucus in stools.

Precautions:

a) Do not give drugs like imodium or loperamide that stop diarrhoea by slowing bowel movements. Dicyclomine can be given for cramping abdominal pain.

b) Do not stop feeding. Give non oily non spicy mashed foods.

c) For details of ORS administration and management of dehydration see diarrhoea booklet.

CONSTIPATION

A person passing dry, hard stools less than once a day. It may develop suddenly (acute) or be long-standing (chronic). Acute constipation is usually serious, especially if there is also vomiting, abdominal pain and distention and patient does not even pass wind. Such cases may be referred at once. Constipation after a bout of diarrhoea also needs no treatment. It becomes all right on its own.

Chronic constipation is due to:

a) Faulty bowel habits-habitually not going to nature's call, on time, or lack of a convenient place.

b) Faulty diet-low in roughage or water.

c) Lack of exercise.

d) Painful lesions near anal region.

e) In pregnancy and in old people because of difficulty in straining

f) In children due to poor diet or poor training of bowels.

General Guidelines

Almost never are drugs an answer. Indeed one must be careful not to get dependent on drugs. One may give drugs for a few days and slowly withdraw as changes in diet and habits improve. Advise patients to eat lots of greens and leafy vegetables and bananas (green, poovan, etc.), drink lots of water, and go for at least an hour's walk daily. Let him or her spare an hour each morning at the same time, to go to a toilet till the problem improves. Bisacodyl can be given for a few days. And yes, consider it as constipation only if stool frequency is less than once a day.

When to refer?

1. Any acute constipation-especially with vomiting, abdominal pain.
2. Chronic constipation not responding after 2 weeks.
3. If there is blood in stools.
4. In children with persistent constipation

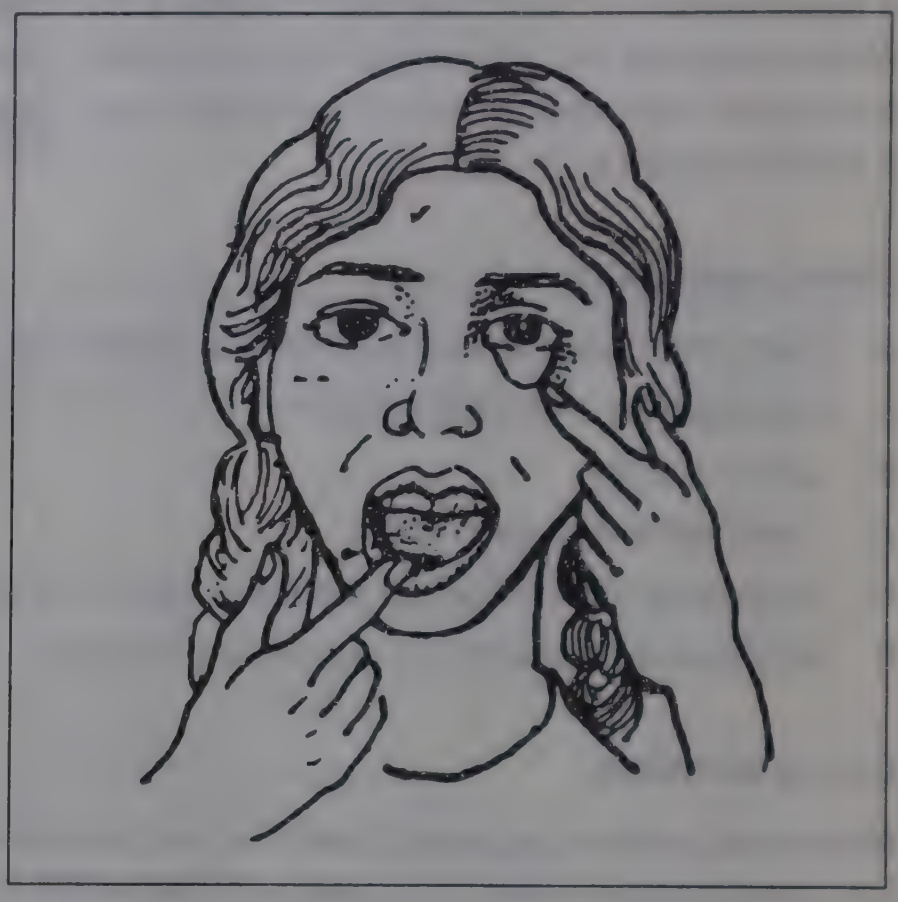
ANEMIA

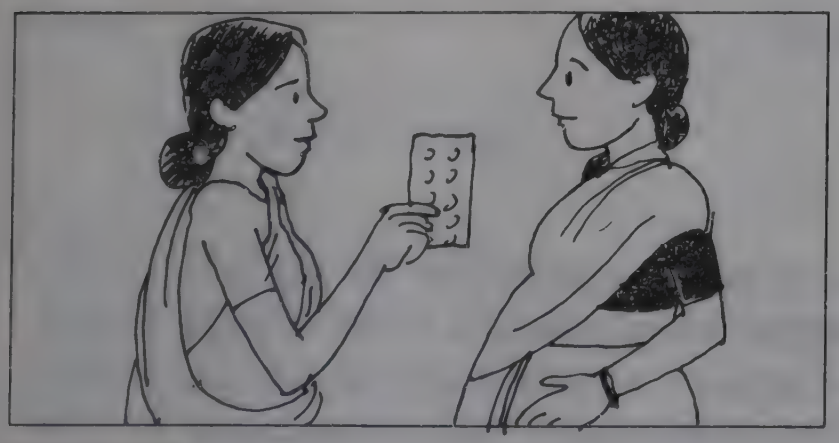
This is caused by deficiency of haemoglobin, the red color pigment in the red cells of blood. This carries oxygen to tissues. Its formation is affected if there is a diet or deficiency in iron or in folic acid, in Vitamin B12 or in proteins. Anemia is usually caused by prolonged blood loss, where the diet cannot make up the haemoglobin lost. Repeated pregnancies also cause anemia. The most common cause of prolonged blood loss is hook worms. In women heavy menstrual flow plus dietary deficiency makes anemia a very common disease. There are many other causes for anemia, but these are less common.

Patients with anemia complain of tiredness and weakness. The nails and tongue look pale. Severe anemia causes general pallor and swelling of feet.

General Guidelines

- All person with anemia need to increase eating of foods that contain iron. Green leafy vegetables, bajra, ragi, beans, jaggery, meat and fish are all good sources.
- All women in pregnancy may be given iron and folic acid tablets to prevent anemia.
- Remember to try and find cause of blood loss or if there is any other cause of anemia. Treating anemia is not enough without treating the cause.





Treatment

a) Poor diet, under-nutrition	——>	Correct the diet. Give iron and folic acid tablets.
b) Repeated pregnancies and breast feeding	——>	Give iron and folic acid tablets.
c) Excessive blood loss	——>	Give iron tablets. Refer to doctor
d) Blood loss per anus. Suspect piles.	——>	Give iron tablets. Refer to doctor.

e) No other cause obvious (May have signs of other worm infestation) Suspect hook worm	Give iron and treat for hook worm with mebendazole
f) With chronic diarrhoea	Refer

When to Refer?

1. All severe anemia.
2. Anemia that do not respond to iron and folic acid even after one month of treatment.
3. Anemia associated with other illnesses such as fever or cough or enlarged glands in neck.
4. When bleeding is heavy and does not stop or keeps recurring.

Precautions

- Warn patient that on taking iron tablets one's stools will be black and sometimes there is a stomach upset, loose stools or constipation,
- If there is stomach upset give after food and reduce the dose.
- Continue iron therapy for 6 months even if the patient feels all right after a month or two (This is to build up stores)
- Refer those patients who do not tolerate the iron tablets.

Anemia may be measured by a simple blood test called the Haemoglobin test. This can be done in almost any pathological lab.

	Men	Women
Normal	Above 14 mg/100ml	Above 13mg/100ml
Mild anemia	10-14mg/100ml	10-13mg-100ml
moderate anemia	5 to 9/g-100ml	5 to 9 mg/100ml
Severe anemia	Below 5mg/100ml	Below 5mg/100ml

UNDERSTANDING HOME AND HERBAL REMEDIES

INTRODUCTION:

Everywhere on earth people use home remedies. In most places these are part of knowledge handed down from one generation to the next by word of mouth over hundreds of years.

Many home remedies have great value. Many modern drugs that are in use were discovered when scientists followed up clues available from such traditional medicine of various societies.

Even now many home remedies are of great value.

Others are of no use.

Some are even harmful.

Advantages of home remedies:

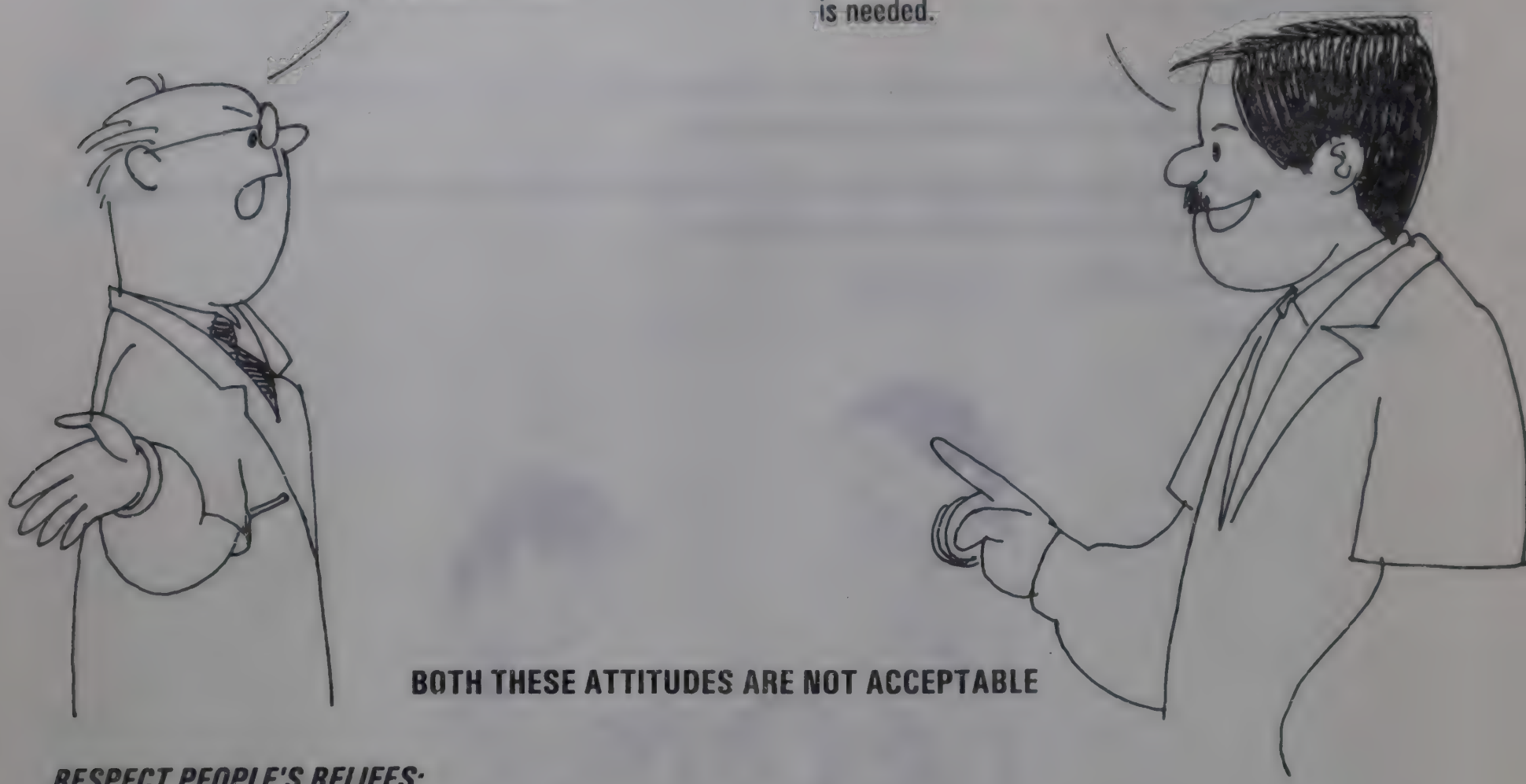
The home remedy is usually cheaper and often it is safer. In some situations it is also better than modern medicines. For example turmeric in milk or tulsi leaves in water is so much better than the cough syrups that many doctors prescribe.

Disadvantages of home remedies:

Most home remedies are not for use in serious illnesses, especially in infections like tuberculosis or pneumonia or typhoid. Do not lose time trying out home remedies in serious diseases. They are better used only in those situations where the need is for relief of symptoms and we expect the disease to become alright on its own.

The second major disadvantage is that doctors do not prescribe them and there is very little study of these remedies. An ordinary citizen therefore finds it difficult to assess the value of a home remedy or whether the illness for which it is being used is correctly diagnosed. This fact leads to two attitudes.

TWO ATTITUDES ON HOME / HERBAL REMEDIES



BOTH THESE ATTITUDES ARE NOT ACCEPTABLE

RESPECT PEOPLE'S BELIEFS:

Home remedies are part of people's traditional knowledge and beliefs. Just being contemptuous or calling people ignorant or superstitious does not solve anything. Most people learn how to survive from their earlier generations-how to fish, how to farm, how to build a house, how to cook, how to heal diseases. Much of what they have learnt is useful-indeed essential, for their survival. Some of it is not.

One can and indeed must point out those practices that are harmful and explain why we say so. But to characterize people as ignorant is to display our own. It is also arrogant. It fails to recognize our errors and limitations.

Many home remedies are useful and much better than the modern drugs prescribed by doctors. Today many home remedies are being marketed as drugs by big companies and being prescribed by doctors as there are huge profits for them, though these same doctors may scoff at home remedies.

KNOWING WHETHER A REMEDY WORKS IS NOT EASY!

It is not enough to know that one or two patients became alright with the drug or with the home remedy. Why?

1. BELIEF ITSELF CAN CURE:

The healing power of a belief is very strong. For example some people with severe headache get relief on taking a potion. The headache disappears. The potion was only some powder (sugar water etc.) but the belief that it was medicine cured him.

Such medicines are called "placebo" (Latin for "we shall please").

Very often people believe a poojari's mantra or a 'tavez' (amulet) has magic powers. A visit to a poojari or tying a tavez will then cure them. Serious illnesses will not respond to such treatment. Illnesses arising from one's belief's or worries or fears respond best.

2. BECAUSE THE DISEASE IS SELF-LIMITING:

Many an illness becomes alright by itself. A drug that happens to be taken at that time is given the credit for curing the illness though in fact it was only a coincidence. For example some turmeric water is given to a jaundice patient. In a week the jaundice becomes alright. This happens in over twenty cases we see. We then conclude that the turmeric water helps. Not so. All the twenty cases would have improved without the water. That is why whenever a new drug is tested, it is given to some patients with disease. Another group with the same disease are left untreated. Only if the treated group has a much better outcome can we be sure of the cure's effectiveness.

3. THERE ARE DIFFERENCES BETWEEN INDIVIDUALS IN THE NATURE OF THEIR ILLNESSES & THEIR RESPONSE TO TREATMENT.

For exampie, many people believe that swallowing a special live fish or eating a banana with an earthworm kept inside it will cure asthma. We do come across some people who have been so cured especially as they tend to talk about it and the person who gave it also talks a lot about these patients. But there are many others who did not get cured whom we do not know about! Some may have even had harmful effects! Those who did benefit may have done so because in their case there was a major contribution from one's belief, from one's own mind in the causation of the disease. Such a psychological cause could have been "cured" by the treatment.

Or take snake bite. Many local folk practitioners say they can cure snake bite. We also meet many people who have been so cured. But careful study has so far failed to reveal any home remedy or effective local treatment for snake bite. More likely in these cure cases it was the bite of a nonpoisonous snake or the snake's fangs did not penetrate into the skin or had less venom in it.

> *PERSONS WITH POISONOUS SNAKE BITE MUST RUSH TO A HOSPITAL EQUIPPED WITH ANTIVENOM. NO TRADITIONAL REMEDY FOR IT WORKS.*

Can we be sure that these claims for snakebite are false?

No, we are not sure that all claims are false. Certainly there is room for people to study traditional snakebite cures further. But only those who are equipped to study it, and can take other curative measures in case their experiments do not work must do so. It is legally and morally wrong for health activists (and even for doctors working without adequate permission and safeguards and procedures) to conduct such experiments on their own.

HOW THEN DO WE KNOW WHICH HOME REMEDIES TO FOLLOW?

It is difficult to know. We must discuss in our groups and without resource persons about each specific home remedy. However one can make some general guidelines.

A. Disbelieve all Remedies That Are Based On Notions Of Witchcraft Or Blackmagic Or Evil Eye.

Many people think that an illness has come because of an enemy casting a spell or evil eye. They seek magic to counter these evil spells. Such beliefs are all nonsense. No one has power over other's health except by the feeling of fear or awe they can create. Get rid of the fear.

The causes of illness have nothing to do with witchcraft or magic.

B. Disbelieve remedies based on "anger of goddess or gods?"

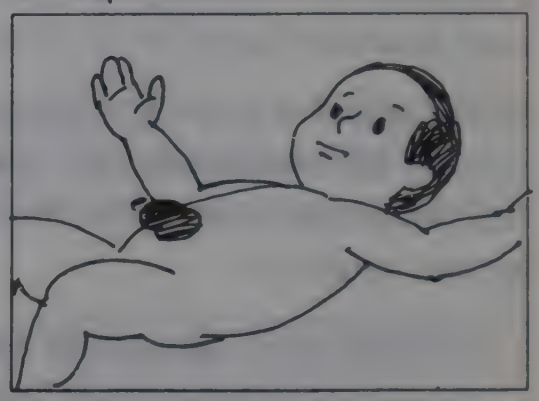
People believe measles or other rashes occur due to anger of goddess or her visitations. So even if the child becomes very weak or dies they will not go to a doctor. They believe offerings made to the goddess will drive away the disease.

All beliefs of this sort are of no use and where such beliefs interfere with medical treatment it can lead to death.

Especially in measles-never restrict food. Give plenty of water. See a health worker or a doctor.

C. Remedies that are foul or disgusting to common sense are all not to be tried.

e.g - Poisoning can be cured by human faeces
- Asthma can be cured by eating earthworms } WRONG



D. Remedies that use animal or human waste are usually dangerous.

e.g. Use of cowdung on umbilical cord is one of the most important causes of death in the new born.

Use of cow dung on burns can cause severe infection.

N.B. Cow dung is not antiseptic. It is highly infective.

E. Remedies that bring physical harm to self or others are all wrong.

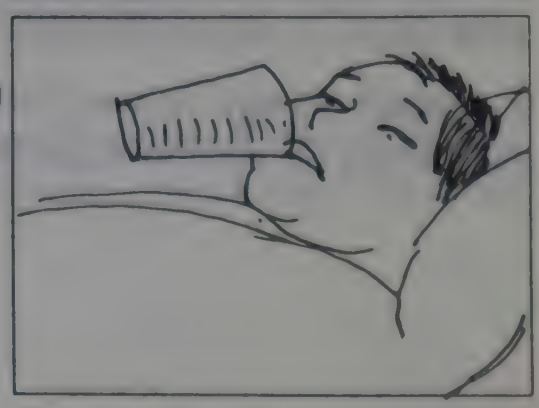
a) Branding a new born baby (to make it cry) or an adult with a red hot iron is dangerous.

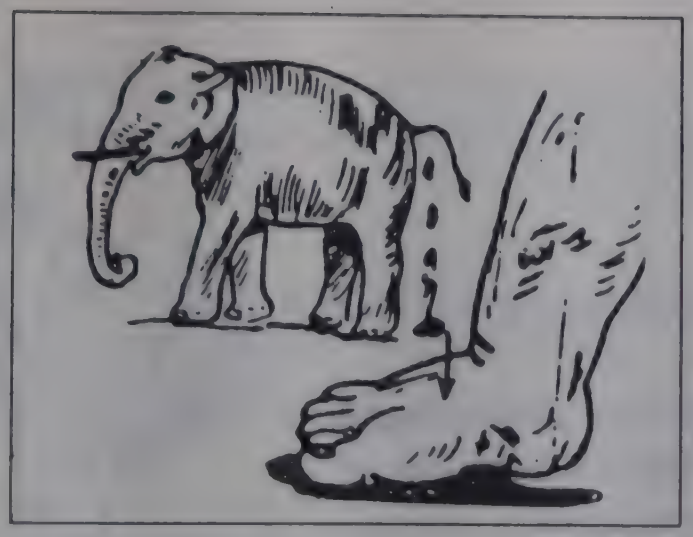
b) Belief that sacrificing animals or worse humans to beget a child is dangerous and criminal.

F. Home remedies used in serious illness are often harmful.

a) Giving neem oil to children with fits.

b) Pouring milk or water into the mouth of an unconscious person to make them conscious can lead to aspiration and death.





G. Home remedies based on likeness- (that is the cure resembles the sickness) are all likely to be useless.

e.g.

a) For elephantiasis, to step on elephant dung (elephant-elephant)

b) For jaundice, washing hands with turmeric water. (yellow-yellow)

c) For diabetes, drinking bittergourd juice. (sweet-bitter)

d) For mumps, wearing a necklace borrowed from a neighbour. (neck swelling-necklace)

HOME REMEDIES THAT HELP

However there are hundreds of home remedies that help. Given below are a few examples of generally accepted home remedies that health activists may want to use. (most)

For easier discussion they can be divided into two groups.

a) those based on lifestyle habits and practices.

b) those based on various plants and plant products

Home Remedies Based On Life Style Practices

1. A soft-spot on the head in diarrhoea in a baby is dangerous: It needs fluids.
2. Tying a cloth loosely around the neck prevents a sore throat from worsening.
3. Steam inhalation relieves coughs & colds.
4. Giving watery kanji (rice-gruel) with salt to a child with diarrhoea, prevents dehydration.

In each programme area the health team must make a clear list of such health related practices and by discussion amongst themselves and with others try to draw up a list of useful practices to encourage and harmful practices that must be countered.

Home Remedies Based on Plants & Plant Products


Tulsi

A. Cough and Cold

If a child has a cough and cold:

* Crush 10-15 'tulsi' leaves. Give one teaspoon of this juice mixed with honey or jaggery three times a day to babies for 5 days.
* Heat four teaspoons of coconut oil. Crush one teaspoon of camphor (kapoor or karpura). Dissolve this in the oil. Keep it stored in airtight bottles. This can be rubbed on the chest and throat of the child to relieve congestion.

If an adult has cough and cold:

* Boil a handful of fresh eucalyptus leaves in two glasses of water, till only one glass is left. Strain this water and add sugar. Drink this three times a day for 5 days.
* Another effective medicine for cough and cold is Leucas aspera (Hindi: Guma, Tamil: Thumbai). This is a wild plant with white bellshaped flowers. Boil one handful of fresh leaves in water with a pinch of turmeric powder (haldi). Inhale the steam. This helps to relieve congestion.
* Vasaka (Adusa, Basak). Boil a handful of leaves in a glass of water until the water gets reduced to half. Add one teaspoon of honey. Give three times a day for five days.

B. Sinusitis

* Soak a piece of turmeric in castor oil and burn it. Inhale the fumes. Burn a few pepper corns (Hindi: Kali mirch, Tamil: Milagu) and inhale the fumes.
* Mix together half a cup of bitter gourd (Hindi: Karela, Tamil: Paharkai) juice, half a lime and tablespoon of honey. Drink three times a day for 5 days.

C. Sore Throat

* Crush fresh ginger to get 1 teaspoonful of the juice and mix this with equal amount of honey. Take this every three hours. This is very soothing to the throat.
* Boil some water. Add the juice of some lime and sugar or salt. Take this hot once every 3-4 hours.
* Boil a glass of milk with a pinch of turmeric and pepper powder (black pepper) and drink it hot at bedtime.

D. Intestinal Cramps And Stomach-Aches Due To Intestinal Worms Or Indigestion

* Roast and powder cumin seeds or zeera seeds. Take 2 teaspoons with warm water 3 times a day for 2 days at the most. This can also be used with curry or mixed with buttermilk. If pain persists or increases, seek medical help.

E. Diarrhoea

If a person has mild diarrhoea without any fever or vomiting or blood in the stools, and no sign of dehydration:

* Add extra water while cooking the rice and take out the extra water when it is boiling. Let it cool, add a pinch of salt and give to children with diarrhoea.
* Roast rice till it becomes completely black. Crush it. Give adults two tablespoons with a glass of water after each loose motion. Do not give to children.

* Roast one handful of cumin seeds (jeera), add the juice of one lime and a pinch of salt. Drink this three times a day for 3 days. Children should be given half of the adult dose.

F. Vomiting in Pregnancy

* Powder 3-4 cloves (laung) and soak in a glass of water for half an hour. Strain and drink this water as and when required. This is not harmful and has no side effects.
* One glass of lime juice with a pinch of cardamom powder (if available) given as and when required. This is not harmful.

G. Fresh Cuts and Wounds

* Wash the cut well with clean water. Wash a piece of fresh ginger and grind it. Apply on the cut and bandage it with a clean cloth. Do not remove the bandage till the cut has completely healed and the ginger comes off on its own. Keep the bandage completely dry. If you can get dettol, mix it with water and use this solution for cleaning.
* Wash the affected area with clean, warm water (if possible) and apply turmeric powder over the area. Clean and apply turmeric powder everyday.

H. Clean Ulcer

When an ulcer is clean without any pus, boil one ink nut (Hindi: Balhar, Kathepar: Tamil: Kadukai) in a glass of water. Strain the water and wash the ulcer with it. Then rub the nut on a clean surface. Apply the paste on the ulcer. Keep the ulcer clean.

I. Old Ulcers and Wounds

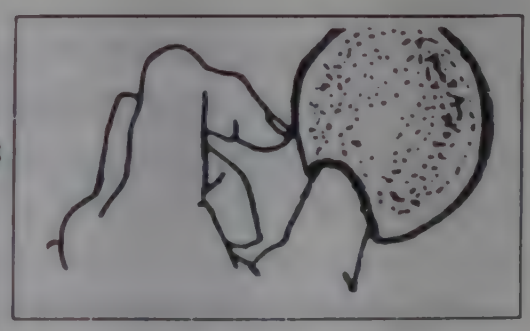
When an ulcer or a wound is not treated. It gets infected and has lot of pus.

* Cut an unripe papaya. Scoop out the inside pulp and apply on the ulcer. Wash it off the text day and apply papaya pulp again. Continue till the ulcer becomes clean. Then treat as for clean ulcer with ink nut.

Note: Ripe papayas are rich in vitamins and also aid digestion. Eating them is especially helpful for weak and old people.

* The sap from the banyan tree is also good for cleaning ulcers, with pus. This sap can also be used for cracked heels.

(An ulcer which is clean will heal without any antiseptic.)



J. Pus Under The Nails

* Make a hole in ripe yellow lime and keep the infected finger in this till the pus disappears.

K. Boils and Abscesses

when a boil is painful:

* Apply a paste made of soap and turmeric powder. Turmeric powder is antiseptic. The boil will burst and will heal quickly:
* Apply castor oil on the boil. Cook some rice flour with turmeric powder and apply this on the boil. The boil will burst within 12 hours. After the boil bursts, treat it like an ulcer with pus.

L. Ulcer In The Mouth Or Tongue

Ulcers in the mouth or tongue are often caused by not eating the right kind of food (malnutrition). These ulcers are painful and the person does not feel like eating. This leads to more malnutrition.

These ulcers can be made less painful, so that the person can cat his food properly. Only proper nutrition can cure these ulcers completely.

The following remedies help in making the ulcer less painful, by forming a protective coat on the ulcer:

* Grind the bark of a banyan tree. Put this juice on the ulcer.
* Chew some guava leaves before eating. These leaves have pectin in them, and this coats the ulcer making it less painful.
* Apply the paste of ink nut on the ulcer.

M. Stomach Ulcer and Heart Burn

Persons with stomach ulcer or heart burn should avoid spices, very hot water, tea or coffee. Smoking and alcohol must be avoided.

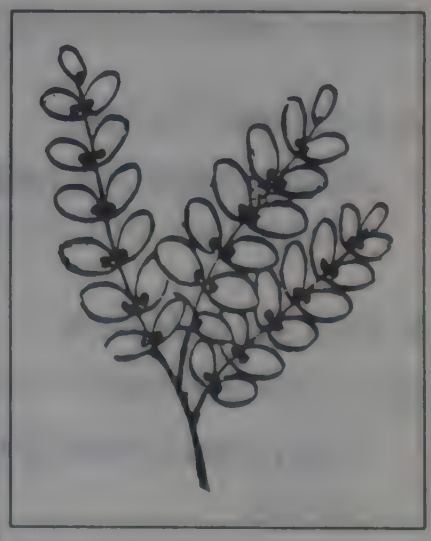
* Soak some cooked rice in water for one night. In the morning add two teaspoons of fenugreek (Hindi: Methi; Tamil: Vendayam) seeds to the soaked rice and eat it on an empty stomach (before breakfast).
* Fresh ash gourd (Hindi: Petha; Tamil: Chambal Pusanika) taken twice every month helps in relieving stomach burn.
* Eat one ripe banana after every meal
* Boiled rice with milk or curd without any chillies and spices is recommended. Pain after or in between meals can be taken care of by drinking either cold milk or even plain cold water. (Note : milk is often not recommended by many doctors).

N. Fungus Infection of the Skin (Tinea Circinata)

Take the leaves of Cassia Alata and wash it thoroughly with water (Tamil: Seemai Agathi). Grind it and apply the juice three times a day for 7 days.

O. Jaundice-Hepatitis

Phillanthus niuri (Hindi: Bhoin Amla; Tamil: Keela Nelli). This is a small wild plant. The leaves have small berries under them.



Treatment: Take a whole plant and grind it. Eat this paste early in the morning on an empty stomach. This also helps to stop vomiting and the sick person can eat his food.

Eclipta prostata/alba (Hindi: Bungran; Tamil: Karisilankanni). The leaves of this plant can be cooked and eaten once a day. Boil a handful of the leaves in a glass of water alongwith one spoon of castor oil and 2-3 cloves of garlic and give this to the sick person. This also helps to reduce vomiting. The stools and urine become normal coloured.

P. Dandruff

Apply lime juice or the paste of neem leaves to the hair and scalp. Leave it for one hour; then rinse with plain water. Avoid using toilet soap or shampoo to wash the hair. Do this once a day for one week. Repeat after 15 days. Application of oil over the scalp at night is advisable.

Q. Toothache

* Crush one or two cloves and put in the affected tooth. Let the juice remain in the mouth for sometime. If clove oil is available, soak a small piece of cotton in clove oil and put it on the affected tooth.
* Chew one or two cashew leaves and let the juice remain in the mouth.
* Tooth powder made of burnt mango leaves also helps in reducing toothache.
* Gargle with lukewarm water with salt as and when required. These remedies will help reduce the pain for sometime. These remedies will not cure the problem. Consult the health worker to find out if the tooth needs to be filled or removed.

R. Pain During Menstruation

* Grind a handful of the leaves of bitter gourd with 2 pepper corns and 1 clove of garlic, Take this once a day for three days.
* Take two teaspoonful of the juice of aloe pulp (mucilaginous part) once a day starting three days before the expected menstrual period. To be repeated for 2 menstrual cycles.

HOME REMEDIES & SERIOUS ILLNESS

Q. *All these above remedies apply almost always to symptomatic relief or mild illnesses. Are there no cures in traditional medicine for serious illnesses or chronic diseases? May we not try these remedies also?*

A. It is our understanding that treatment is available for some diseases at least. Such treatment in some diseases are stated to be better than what is obtained in allopathy. However an allopathic doctor must establish using the tools of their science the validity of these treatments, before they can accept these remedies.

If one is a traditional medical practitioner years of experience should have given him an insight of what cautions to observe and when to give and how much to give of a herbal remedy and what other advice this must be accompanied with. So there is a case for listening to their advise.

Our health activists are not traditional health practitioners nor is it easy for them to establish which of these cures work and which do not work. It is not safe to undertake research without training. Such research must be left to those trained to do so. Indeed we seek to encourage such research on traditional medicine.

But with the levels of training and experience the health activist in our programmes can command, it is essential to confine any attempt at treatment to symptomatic care and minor illnesses and refer all the other cases.

Book V

First Aid

FOREWORD

This book is part of a series that equips communities to look after some of their basic health needs. This is a guide book for first aid. The advises in this book are not a substitute to a doctor's help. They are meant to be simple measures that can and must be taken before medical help arrives or a seriously sick or injured person is taken to a doctor. We hope two or three persons in every village are trained and equipped to provide first aid.

Most of the material for this book is drawn from either the book `Where there is no doctor' or from the "First Aid Manual" of the British Red Cross Society. Both these books are excellent books but since we needed a smaller version adapted to our programme needs, we have taken the liberty to draw from these books, make minor changes, translate and publish it. Those who want to learn more should get a copy of the original book.

Dr. T. Sundararaman
Editor.

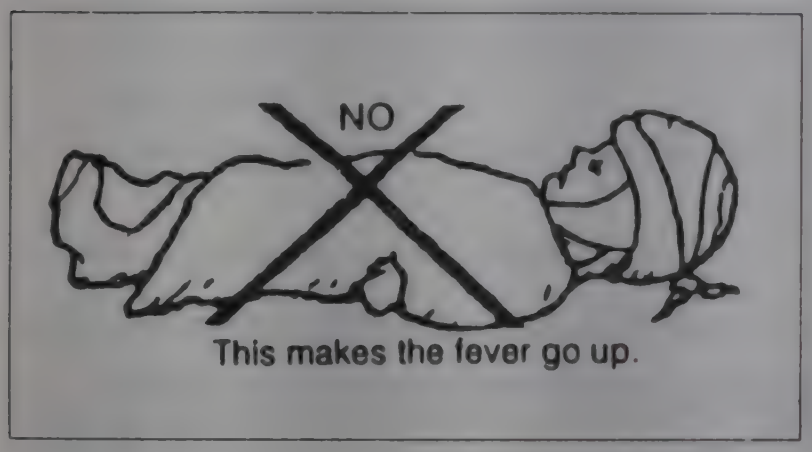
CONTENTS

FIRST AID

1. FEVER

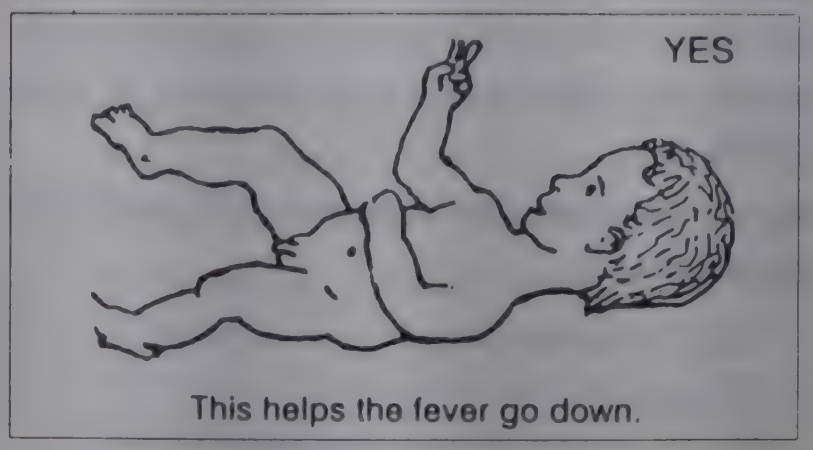
When a person's body temperature is too hot, he/she has a fever. Fever itself is not a sickness. But a sign of many different sicknesses. However, **high fever can be dangerous, especially in a small child.**

When a person has a fever



This makes the fever go up.

1. Uncover him/her completely. Small children should be undressed completely and left naked until the fever goes down.



This helps the fever go down.

Never wrap the child in clothing or blankets. This makes the fever go up.

To wrap up a child with fever is dangerous

Fresh air or a breeze will not harm a person with fever. On the contrary a fresh breeze helps lower the fever.

2. Also take aspirin to lower fever. Small children can be given paracetamol.
3. Anyone who has a fever should **drink lots of water,** juices or other liquids. For small children, especially babies, give boiled and then cooled drinking water.
4. When possible, find and treat the cause of the fever.

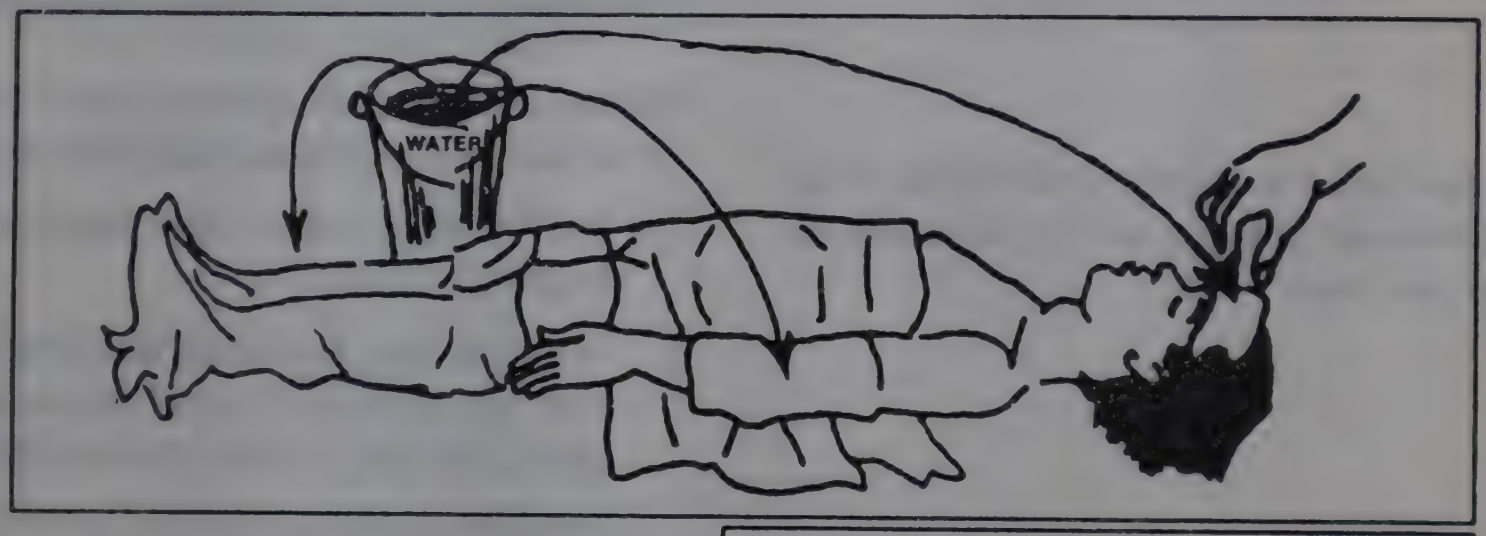
2. VERY HIGH FEVER

A very high fever can be dangerous if it is not brought down quickly. It can cause fits (convulsions) or even permanent brain damage (paralysis, mental slowness, epilepsy etc.). High fever is most dangerous for small children.

When a fever goes very high (over 40°), it must be lowered at once

1. Strip the person naked
2. Fan him/her
3. Cover the chest with a sheet. Soak some pieces of cloth in cool water. Place these wet cloth on his/her forehead, arms and legs. Fan the cloth and change them often to keep them cool. Continue to do this until the fever goes down below 38°. Be sure not to use ice cold water as this may cause shivering and the fever may go up.
4. **If a person has fever, they lose lots of energy.** Give them plenty of cool water with a little of sugar or jaggery to drink **to keep up** strength.
5. Give a medicine to bring down fever. Aspirin and paracetamol work well.

If a high fever does not go down soon or if fits (Convulsions) begin, continue cooling with water and seek medical help at once.



To babies under one year, do not give any aspirin tablets. If you keep them naked the fever will come down.

If a person with fever can not swallow aspirin, grind it up, mix it with some water and put it up the anus as an **enema** or with a syringe without the needle. Paracetamol is safer than aspirin for small children.

3. SHOCK

Shock is a life-threatening condition that develops when the body's blood pressure drops dangerously low. It can result from great pain, a large burn, losing a lot of blood, severe illnesses, dehydration or severe allergic reaction.

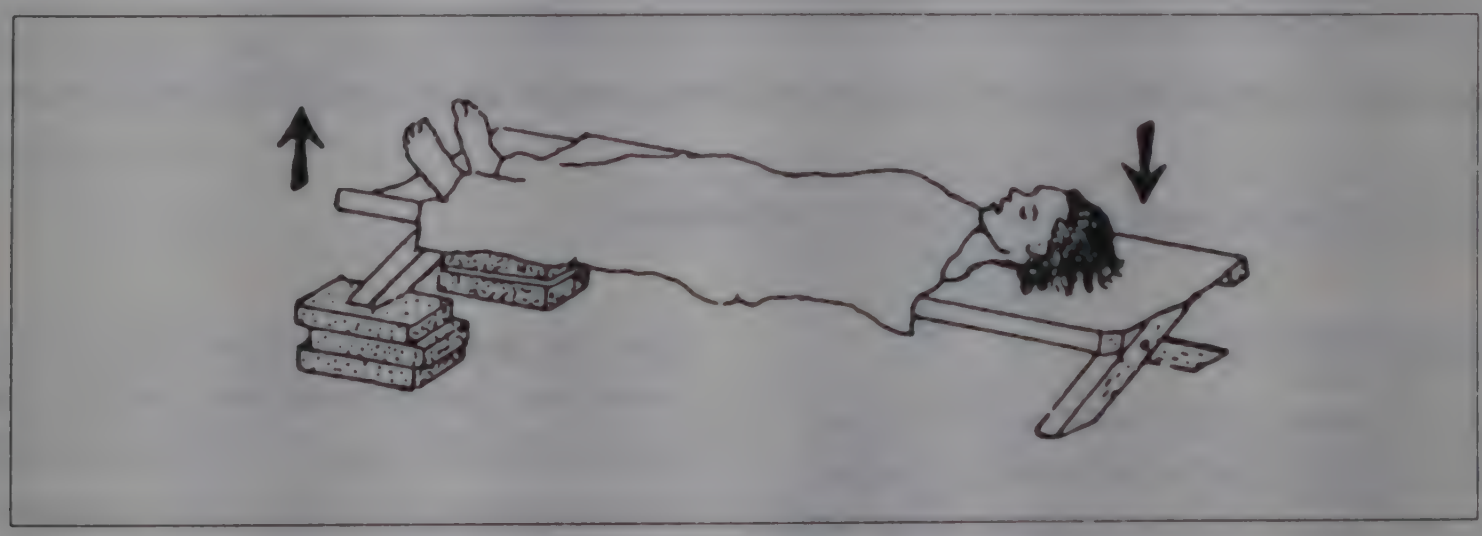
Signs of SHOCK

- weakness after fainting especially on standing up
- feels like vomiting
- too much sweating even in cold weather
- severe thirst
- restlessness, mental confusion or loss of consciousness
- weak rapid pulse (more than 100 per minute)

What to do to prevent or treat shock

At the first sign of shock, if there is risk of shock :

Have the person lie down with his feet higher than his head like this.



If the shock is due to a head injury, do not raise his/her feet. Make him/her sit propped up (half sitting position against a pillow).

- If the person feels cold, cover him/her with a blanket.
- If he/she is conscious, give him/her warm water or other lukewarm drinks. If shock is due to injury (accidents, stab wounds etc.) then do not give anything to drink. He/she may need surgery. Get medical help fast.
- If he/she is in pain, give him/her aspirin or another pain medicine.
- Keep calm and reassure the person.
- If shock is due to allergic reaction, treat accordingly.

If the person is unconscious:

- Lay him/her on his/her side with head low, tilted back and to one side. If he/she seems to be chocking, pull his/her tongue forward with your finger.
- If she/he has vomited, clear her/his mouth immediately. Be sure the head is low, tilted back and to one side so she/he does not breathe vomit into her/his lungs.
- Do not give her/him anything by mouth until she/he becomes conscious.
- If you or someone nearby knows how, give intravenous solution (normal saline) at a fast drip.
- Seek medical help fast.

Note : The level of training most health volunteers receive may be insufficient to diagnose and treat shock.

4. LOSS OF CONSCIOUSNESS

Common causes of loss of consciousness are:

- drunkenness
- a hit on the head (getting knocked out)
- shock
- poisoning
- Diabetes
- fainting (from fright, weakness etc.)
- heat stroke
- stroke
- heart attack
- Epilepsy

If a person is unconscious and you do not know why **immediately check each of the following:**

1. Is she/he **breathing** well? If not, tilt her/his head way back and pull the jaw and tongue forward. If something is stuck in her/his throat, pull it out. If she/he is not breathing, use mouth-to-mouth breathing at once. (See page 9)
2. Is she/he **losing a lot of blood?** If so, control the bleeding (See page .....)
3. Is she/he **in shock** (moist, pale skin, weak rapid pulse)? If so, lay her/him with her/his head lower than her/his feet and loosen her/his clothing.
4. Could it be **heat stroke** (no sweat, high fever, hot, red skin, - See page .....)? If so, shade her/him from the sun, keep her/his head higher than her/his feet, and soak with cold water (ice water if possible).

If there is any chance that the unconscious person is badly injured:

It is best not to move him until she/he becomes conscious. If you have to move her/him, do so with great care, because if her/his neck or back is broken, any change of position may cause greater injury.

Look for wounds or broken bones, but move the person as little as possible. Do not bend her/his back or neck.

Never give anything by mouth to a person who is unconscious.

THE RECOVERY POSITION

Any unconscious casualty should be placed in the recovery position. This position prevents the tongue from blocking the throat, and because the head is slightly lower than the rest of the body, it allows liquids to drain from the mouth, reducing the risk of the casualty inhaling stomach contents. The head, neck and back are kept in a straight line, while the bent limbs keep the body propped in a secure and comfortable position. If you must leave an unconscious casualty unattended, she or he can safely be left in the recovery position while you get help.

The technique for turning shown below assumes that the casualty is lying on her back from the start. Not all the steps will be necessary if a casualty is found lying on her or his side or front.

Before turning a casualty remove her or his spectacles, if worn and any bulky objects from pockets.

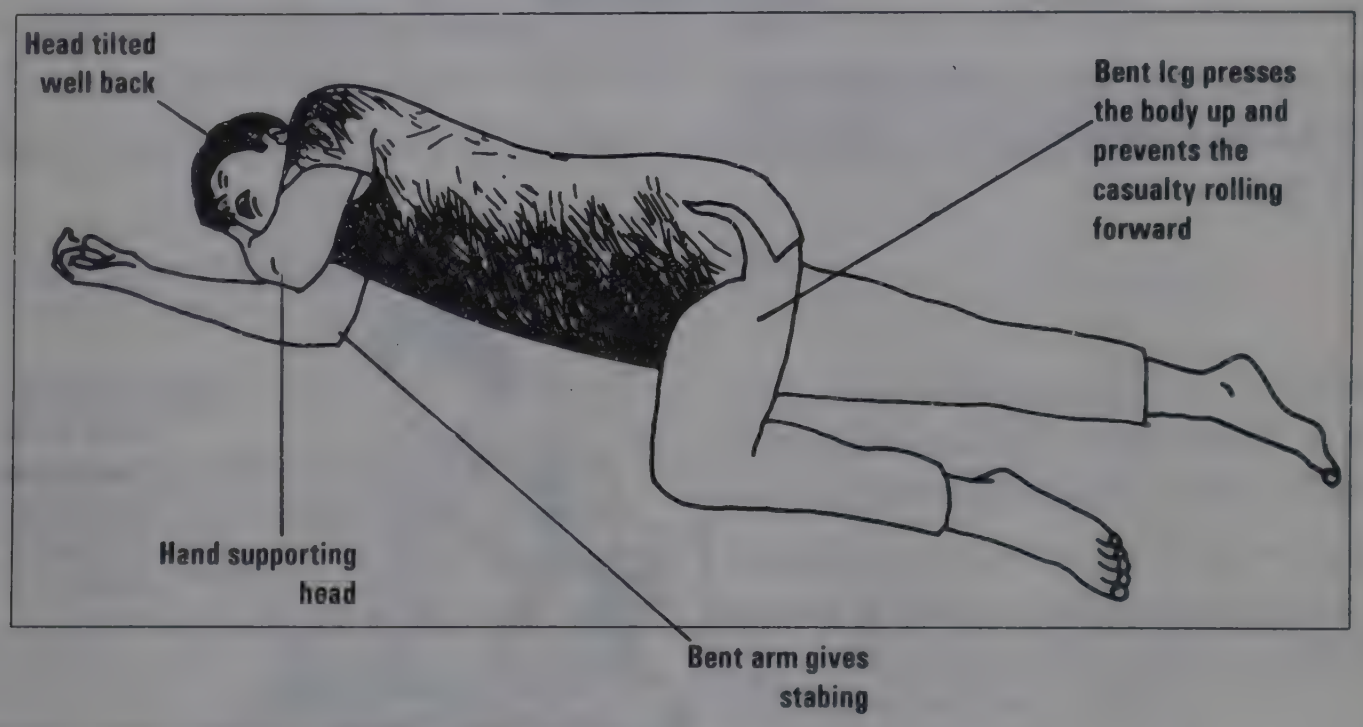
METHOD

1. Kneeling beside the casualty, open her airway by tilting the head and lifting the chin. Straighten her legs. Place the arm nearest you out at right angles to her body, elbow bent, and with hand palm uppermost.

2. Bring the arm furthest from you across the chest and hold the hand, palm outwards, against the casualty's cheek.

3. With your other hand, grasp the thigh furthest from you and pull the knee up, keeping the foot flat on the ground.

4. Keeping her hand pressed against her cheek pull at the thigh to roll the casualty towards and on to her side.



Modifying the recovery position

Depending on the casualty's condition, you may have to modify the recovery position to avoid making injuries worse. For example, an unconscious casualty with a spinal injury needs extra support at the head and neck during turning and in the final position, to keep the head and trunk aligned at all times. If limbs are injured and can not be bent, use extra helpers or place rolled blankets against the casualty's body to prevent it toppling forward.

5. Tilt the head back to make sure the airway remains open. Adjust the hand under the cheek if necessary so that the head stays in this tilted position.

6. Adjust the upper leg, if necessary, so that both the hip and knee are bent at right angles.

7. Arrange for transport to nearest hospital/primary health centre.

5. CHOKING

A foreign object sticking at the back of the throat may either block the throat, or induce muscular spasm. This is known as choking. Adults may choke on a piece of food that has been inadequately chewed and hurriedly swallowed. Young children like putting objects inside their mouths; boiled sweets are a particular danger.

RECOGNITION

There will be:

- Difficulty in speaking and breathing.

There may be:

- Blueness of the skin (cynicism).
- Signs from the casualty - pointing to the throat, or grasping the neck.

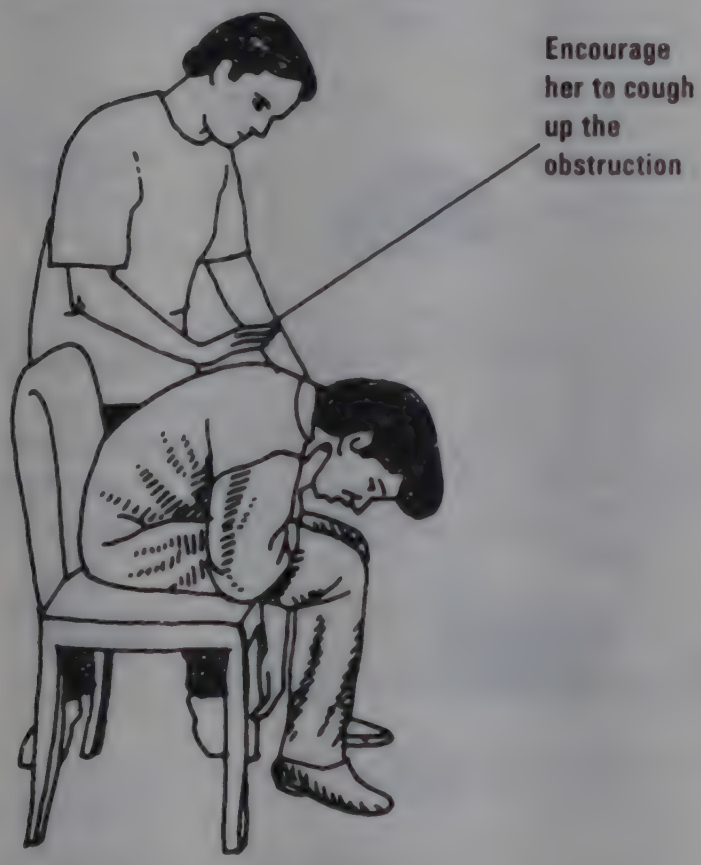
TREATMENT

YOUR AIM is:

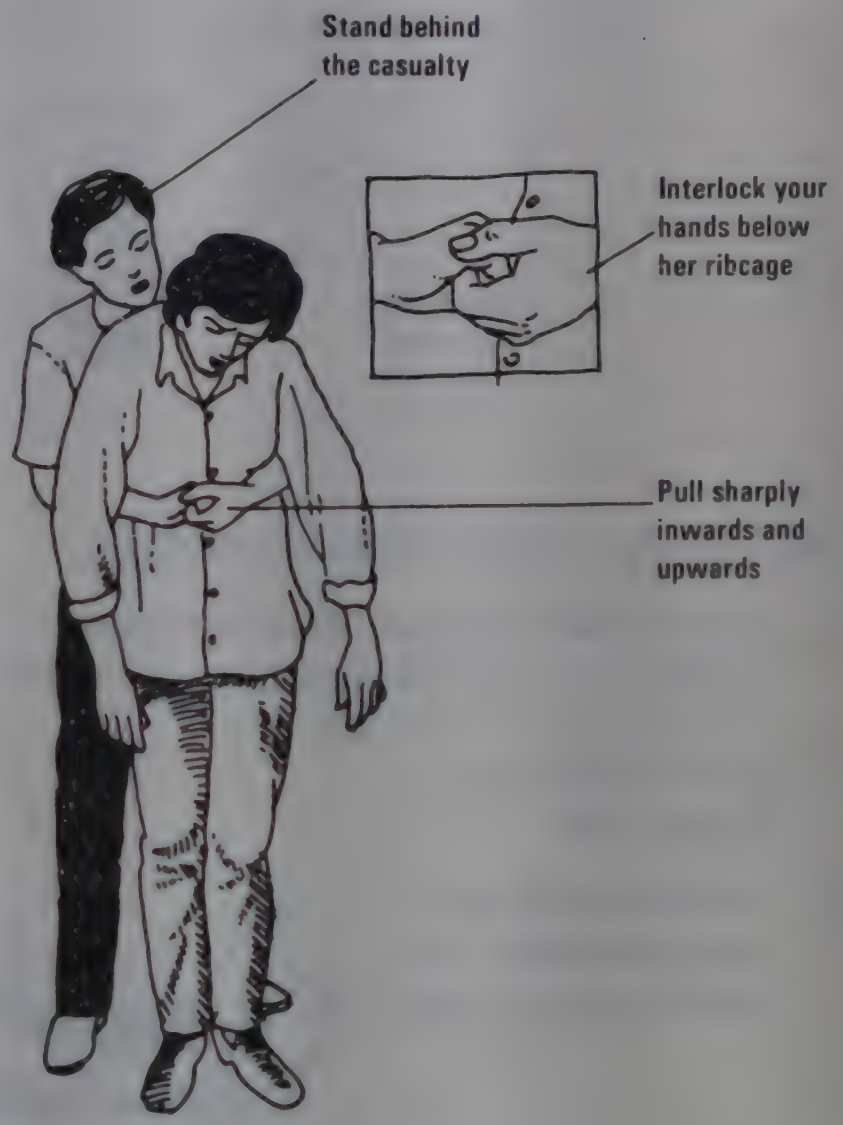
- To remove the obstruction and restore normal breathing

FOR AN ADULT

1. Reassure the casualty. Bend her forward so that her head is lower than her chest.



2. Give up to five sharp blows to her back, between the shoulder blades, with the flat of your hand.



If back slaps fail, try abdominal thrusts. The sudden pull up against the diaphragm compresses the chest, and may expel the obstruction.

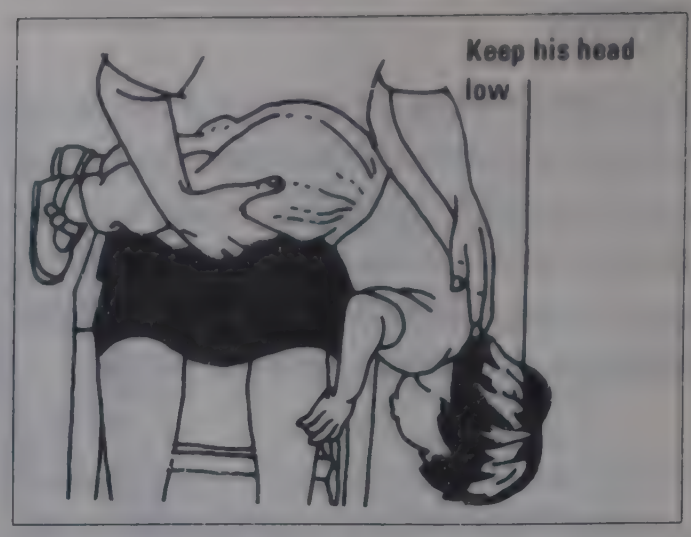
3. IF this does not free the blockage, try again four times, then alternate five back blows with five thrusts.

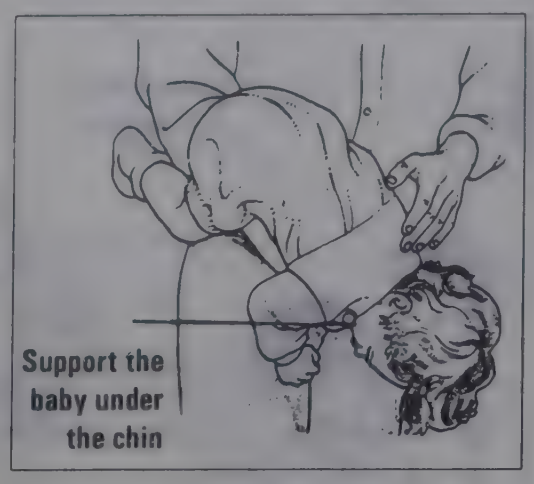
If the casualty becomes unconscious, treat as described opposite.

FOR A CHILD

Place the child over your knee, head down. Slap him between the shoulder blades using less force than for an adult.

If blows fail, use the abdominal thrust only if you have been trained to do so on a child. Otherwise begin resuscitation.





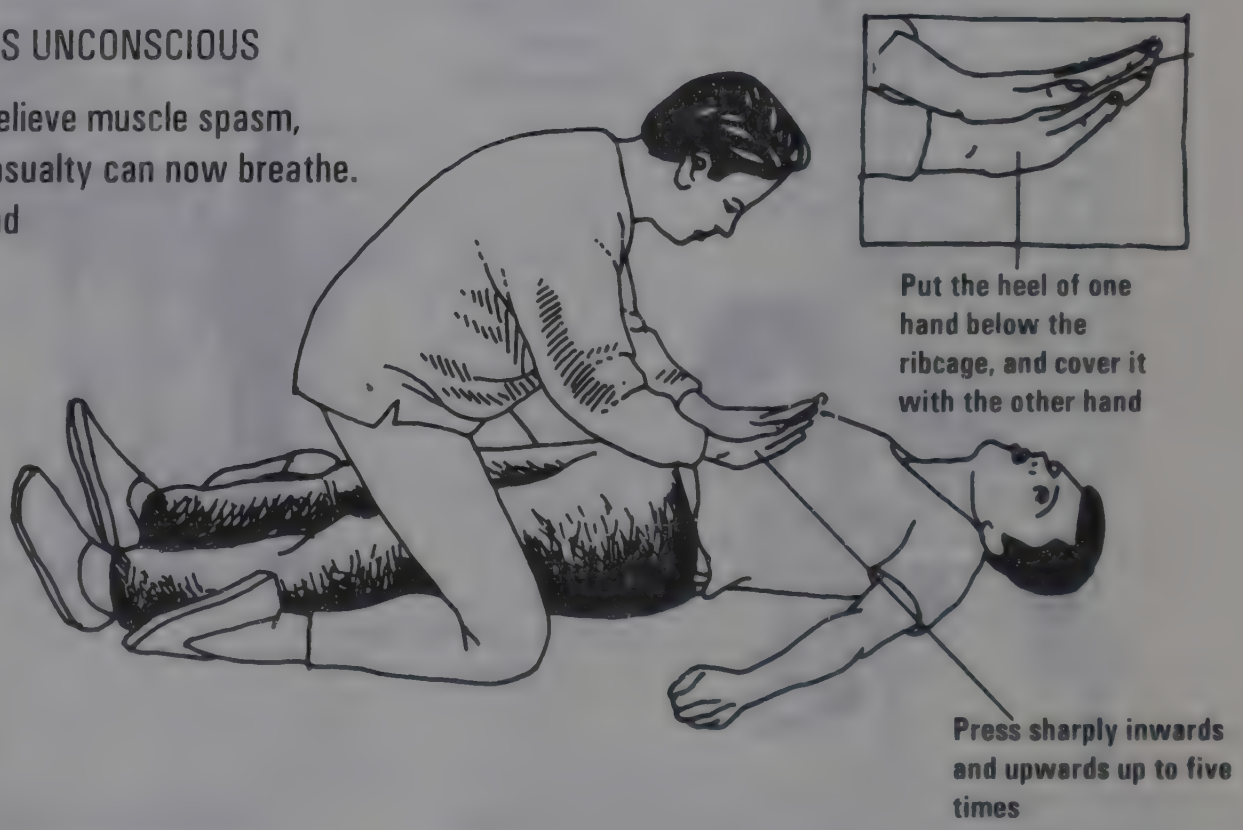
FOR A BABY

Lay the body along your forearm. Slap her between the shoulder blades, using less force than for a child.

DO NOT use the abdominal thrust.

FOR A CASUALTY WHO BECOMES UNCONSCIOUS

1. Loss of consciousness may relieve muscle spasm, so check first to see if the casualty can now breathe. If not, turn her on her side and give 4-5 blows between shoulder blades.
2. If back blows fail, kneel astride the casualty, and perform abdominal thrusts.



If she starts to breathe normally, place her in the recovery position and call an ambulance. Check and record breathing and pulse rate every 10 minutes.

If she does not start to breathe again, rush to the nearest health centre.

6. DROWNING

A person who has stopped breathing has only 4 minutes to live! You must **act fast.**

Start mouth to mouth breathing at once (See next page) - if possible, even before the drowning person is out of the water, as soon as it is shallow enough to stand.

If you cannot blow air into her/his lungs, when you reach the shore, quickly put her/him with her/his head lower than his feet and push her/his belly as you have been trained for. Then continue mouth-to-mouth breathing at once.

> ALWAYS START MOUTH-TO-MOUTH BREATHING AT ONCE before trying to get water out of the drowning person's chest.

When a person is having trouble with his breathing:

- his lips, nails and tongue turn blue in colour
- pulse is slow and irregular
- breathing is irregular or absent
- he may lose consciousness

7. WHAT TO DO WHEN BREATHING STOPS

MOUTH-TO-MOUTH BREATHING

Common causes for breathing to stop are:

- something stuck in the throat
- the tongue or thick mucus blocking the throat of an unconscious person
- drowning, choking on smoke, or poisoning
- a strong blow to the head or chest
- a heart attack

A person will die within 4 minutes if she/he does not breathe.

> If a person stops breathing, begin mouth-to-mouth breathing IMMEDIATELY.

Do all the following as quickly as you can.

Step 1: Quickly remove anything stuck in the mouth or throat. Pull the tongue forward. If there is mucus in the throat, quickly try to clear it out.

Step 2: Quickly lay the person face up, tilt his/her head way back and pull his/her jaw forward.

Step 3: Pinch his nostrils closed with your fingers, open his mouth wide, cover his mouth with yours, and blow strongly into his lungs so that his chest rises. Pause to let the air come back out and blow again. Repeat about 15 times per minute. With new born babies breathe **very gently** about 25 times per minute.

Continue **mouth-to-mouth breathing** until the person can breathe by himself, or until there is no doubt he is dead. Sometimes you must keep it up for an hour or more.

8. EMERGENCIES CAUSED BY HEAT

Heat Cramps

In hot weather people who work hard and sweat a lot sometimes get painful cramps in their legs, arms or stomach. These occur because the body lacks salt.

Treatment: Put a teaspoon of salt in a litre of boiled water and drink it.

Heat Exhaustion

Signs: A person who works and sweats a lot in hot weather may become very pale and weak and perhaps feel faint. The skin is cool and moist. The pulse is rapid and weak. The most important thing is that on a very hot day the skin is cold and moist.

Treatment: Have the person lie down in a cool place, raise his feet, and his legs. Give salt water to drink. 1 teaspoon of salt in a litre of water (Give nothing by mouth while the person is unconscious).

Heat Stroke

Heat stroke is common, but is very dangerous. It occurs especially in older people and alcoholics during hot weather.

Signs: The skin is red, very hot and dry. There is no sweating at all. Not even the armpits are moist. The person has a very high fever, sometimes more than 42°C. Often he is unconscious.

Treatment: **The body temperature must be lowered immediately.**

- Put the person in the shade.
- Take off his clothes and pour cold water over him.
- Fan him.
- Give ice cold water enema.
- Take the temperature every 10 minutes.
- When the temperature comes down to 38°C, stop pouring cold water on him and
- Seek medical help.

DIFFERENCES BETWEEN 'HEAT EXHAUSTION' AND 'HEAT STROKE'.

HEAT EXHAUSTION

- sweaty, pale, cool skin
- large pupils
- no fever
- weakness

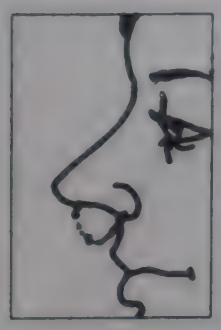
HEAT STROKE

- dry, red, hot skin
- high fever
- the person is very ill or unconscious

To avoid all these emergencies due to too much heat, always drink plenty of water with salt throughout the day in summer.

9. HOW TO STOP NOSEBLEEDS

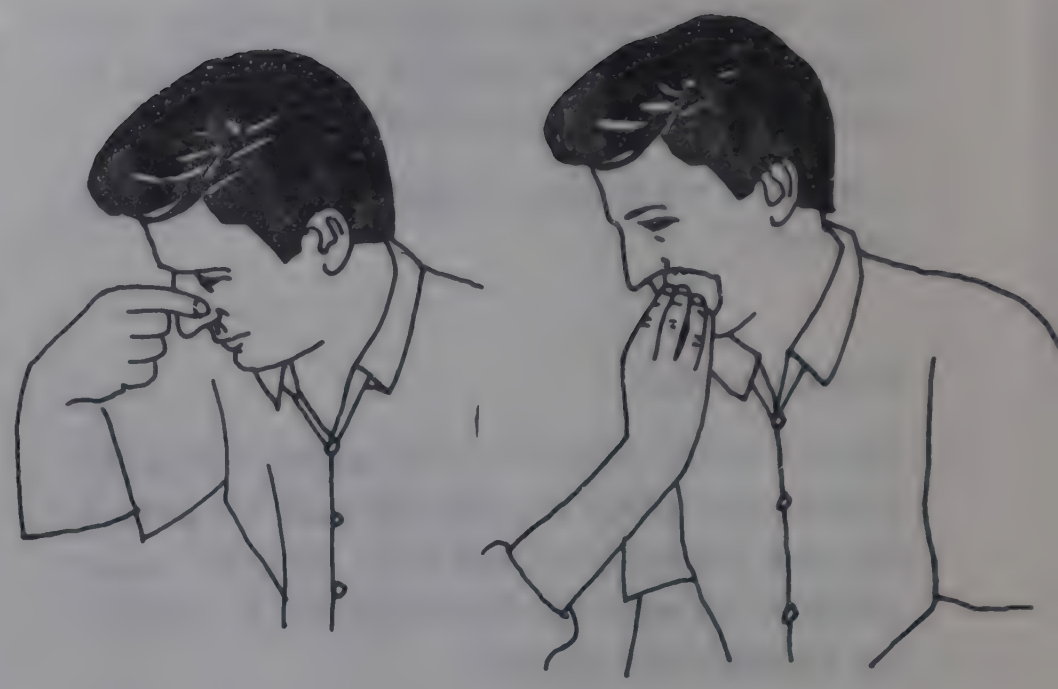
1. Sit quietly.
2. Pinch the nose firmly for 10 minutes or until the bleeding is stopped.



If this does not control the bleeding-

Pack the nostril with a wad of cotton, leaving part of it outside the nose. If possible, first wet the cotton with hydrogen peroxide, Vaseline, cordon cactus juice or lidocaine with epinephrine.

Then pinch the nose firmly again. Do not let go for 10 minutes or more.



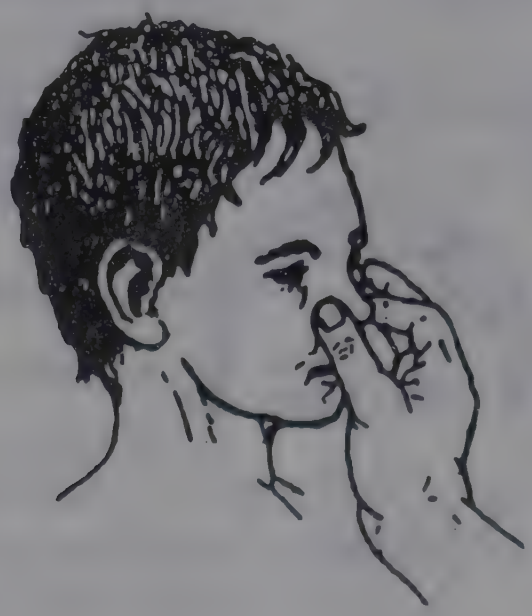
Leave the cotton in place for a few hours after the bleeding stops; then take it out very carefully.

Do not dig into the nose or try to remove clotted blood. Bleeding will start again.

If a person's nose bleeds often, smear a little Vaseline inside the nostrils twice a day.

Eating oranges, tomatoes and other fruits may help to strengthen the veins so that the nose bleeds less.

In older persons, especially, bleeding may come from the back part of the nose and can not be stopped by pinching it. In this case, have the person hold a cork, corn bob, or other similar object between his teeth and, leaning forward sit quietly and try not to swallow until the bleeding stops. (The cork helps keep him from swallowing, and that gives the blood a chance to clot).



10. MANAGING WOUNDS - GENERAL UNDERSTANDING

TYPES OF WOUND

Incised wound

A clean cut from a sharp edge, such as a blade or broken glass. Because the blood vessels at the edges of the wound are cut straight across, there may be profuse bleeding. Incised wound to a limb may also sever underlying structures such as tendons.

Laceration.

A rough tear by crushing or ripping forces, such as machinery. Lacerations may bleed less profusely than clean-cut wound, but there is more tissue damage and bruising. They are also often contaminated by germs; the risk of infection is high.

Abrasion (graze)

A superficial wound in which the top layers of skin are scrapped off leaving a raw, tender area, most commonly caused by a sliding fall or a friction burn. Abrasions often contain embedded foreign particles that may cause infection.

Contusion (bruise)

Any blunt blow, (a punch, for example) can rupture capillaries beneath the skin. Blood leaks into the tissues, causing bruising. The skin may be split, but is often unbroken. Severe contusion may indicate deeper, hidden damage, such as a fracture or internal injury.

Puncture wound.

Standing on a nail, being jabbed with a needle, or being stabbed, for example, result in a puncture wound, with a small site of entry but a deep tract of internal damage. As dirt and germs can be carried far into the body, the risk of infection is very high.

Gun shot wound.

A bullet or other missile may be driven into or through the body causing serious internal injury and sucking in contaminants. The wound or the point of entry may be small and neat, but the exit wound if there is one, may be large and ragged.

TYPES OF BLEEDING.

Bleeding (haemorrhage) is classified according to the type of blood vessel that is damaged : artery, vein, or capillary.

Arterial bleeding can be very dramatic, but copious venous bleeding is potentially more serious.

Arterial Bleeding.

The blood, richly oxygenated, is bright red and under pressure from the pumping heart, spurts from the wound in time with the heart beat. A severed artery may produce a jet of blood several feet high, and can rapidly empty the circulation of blood.

Venous bleeding.

Venous blood, having given up its oxygen, is dark red in colour. It is under less pressure than arterial blood, but since the vein walls are capable of great distension, blood may "pool" within them; thus blood from a severed major vein may gush profusely.

Capillary bleeding.

This type of bleeding, characterised as oozing, occurs at the site of all wounds. Although capillary bleeding may at first be brisk, blood loss is generally negligible. A blunt blow may rupture capillaries beneath the skin, causing bleeding into the tissues (a bruise).

How the body reacts to control bleeding

When blood vessels are severed or torn, their damaged ends constrict and retract in order to minimise blood loss. At the same time, the blood that escapes from damaged vessels begins to clot. Clotting is a complex process involving several factors, and if any one is absent (as in the condition haemophilia), clotting may be delayed.

If this local response is insufficient to contain blood loss, more general reaction causing changes in the circulatory system come into operation.

These diagrams show the principal stages in the formation of a blood clot.

Platelets congregate on the site of the wound.

1. Any damage to blood vessel walls causes platelets to congregate at the site of the injury. They not only help to plug the wound. But also release clotting factors that sta t to convert one of the blood substances, fibrinogen, into a protein, fibrin.

Fibrin threads start to form a plug controlling bleeding.

2. The fibrin forms a dense network that in turn traps more platelets eventually forming a jelly like clot. This normally takes about 10 minutes.

The compact clot seals the wound while the skin is repaired

3. The clot rapidly begins to shrink, releasing a watery substance (serum). This carries antibodies to combat infection, and specialised cells that begin the process of repair. Serum collects in the tissues around the injury causing swelling.

11. MANAGING WOUNDS AND BLEEDING

A. Minor wounds

Prompt first aid can help nature heal small wounds and deal with germs. But you must seek medical advice:

- If there is a foreign body embedded in the wound (see opposite).
- If the wound is at special risk of infection (such as dog bite, or puncture by a dirty object).
- If a non-recent wound shows signs of becoming infected.

Good wound care.

- First wash your hand thoroughly.
- Avoid touching the wound with your fingers (use disposable gloves if possible).
- Don't talk, cough, or breathe over the wound or the dress.

CUTS, SCRAPES AND SMALL WOUNDS

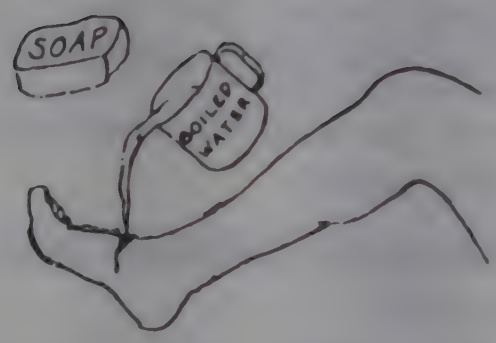
Cleanliness is of first importance in preventing infection and helping wounds to heal.

To treat a wound...

First wash your hands very well with soap and water.

Then wash the wound well with soap and boiled water.

When cleaning the wound, be careful to clean out all the dirt. Lift up and clean under any flaps of skin. You can use a clean tweezers or other instruments to remove bits of dirt, but always boil them first to be sure they are sterile.



If possible, squirt out the wound with boiled water in a syringe or suction bulb.

Any bit of dirt that is left in a wound can cause an infection.

NEVER put animal or human faeces or mud on a wound. These can cause dangerous infections, such as tetanus.

NEVER put alcohol, tincture of iodine or Merthiolate directly onto a wound; doing so will only damage the flesh and make healing slower. Use soap and water.

A clean wound will heal without any medicine.

B. Managing Minor External Bleeding

Minor bleeding is readily controlled by pressure and elevation. A small adhesive dressing is normally all that is necessary.

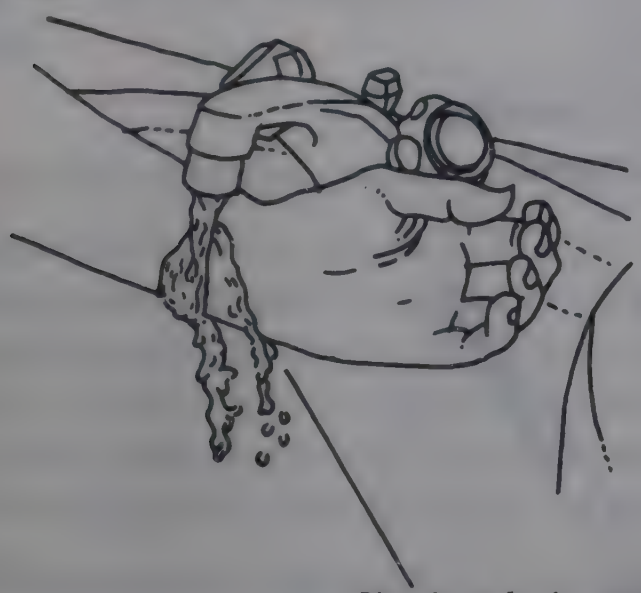
Medical aid need only be sought if the bleeding does not stop, or if the wound is at special risk of infection.

Treatment

Your aim is :

- To minimise the risk of infection

1. Wash your hands thoroughly in soap and warm water.



Rinse loose foreign particles away with water

2. If the wound is dirty, clean it by rinsing lightly under running water
3. Pat gently dry with a sterile swab or clean tissue.

Use cotton wool swabs to clean around the wound.

Ask the casualty to support the injured part.

4. Temporarily cover the wound with sterile gauze. Clean the skin around it with soap and water (or a digressing cleanser). Swab away from the wound and use a new swab for each stroke.
5. Pat dry, then cover the wound with an adhesive dressing (plaster).

IF there is a special risk of infection, advise the casualty to see her doctor.

C. FOREIGN BODIES IN MINOR WOUNDS

Small pieces of glass or grit lying on a wound can be carefully picked off, or rinsed off with cold water, before treatment. However, you must not try to remove objects that are embedded in the wound; you may cause further tissue damage and bleeding.

Treatment

Your aims are :

- To control bleeding without pressing the object into the wound.
- To seek medical attention.

1. Control any bleeding by applying firm pressure on either side of the object, and raising the wounded part.
2. Drape a piece of gauze lightly over the wound to minimise the risk of germs entering it, then build up padding around the object until you can bandage without pressing down on it.

IF you cannot build the padding high enough bandage around the object.

3. Take or send the casualty to hospital.

D. BRUISES

These are caused by internal bleeding that seeps through the tissues to produce discoloration under the skin. Bruising may develop very slowly and appear hours, even days, after injury. Bruising that develops rapidly and seems to be the main problem will benefit from first aid. Bruises may indicate deeper injury.

See also Internal bleeding.

Treatment

Your aim is:

- To reduce blood flow to the injury, and minimise swelling, by means of cooling and compression.

1. Raise and support the injured part in a comfortable position.

   IF you suspect more serious underlying injury, such as a sprain or fracture, seek medical advice.

2. Apply a cold compress to the bruise.

12. SEVERE EXTERNAL BLEEDING

Massive external bleeding is dramatic and may distract you from first aid priorities; remember the ABC of resuscitation. Bleeding at the face of or neck can obstruct the airway. Rarely blood loss is so great that the heart stops. Remember, too, that shock may well develop and casualty may lose consciousness.

See also: Shock page, Unconsciousness page.

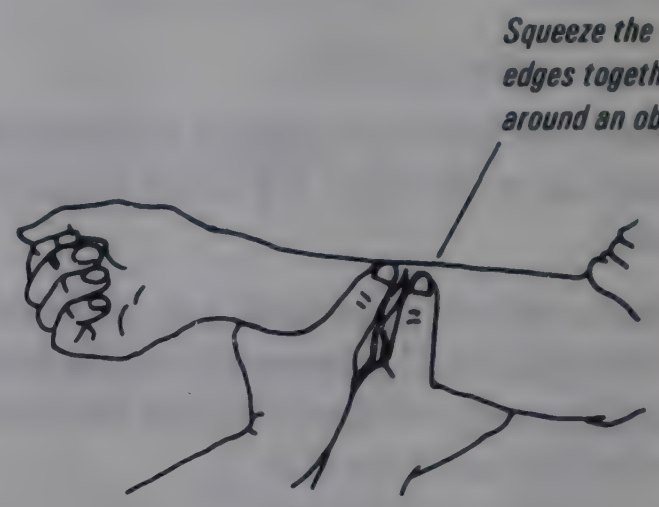
Protecting yourself.

If you have any sores or open wounds, make sure that they are covered with a waterproof adhesive dressing. Use disposable gloves whenever possible and wash you hands thoroughly in soap and water before, and after treatment.

Treatment Your aims are :

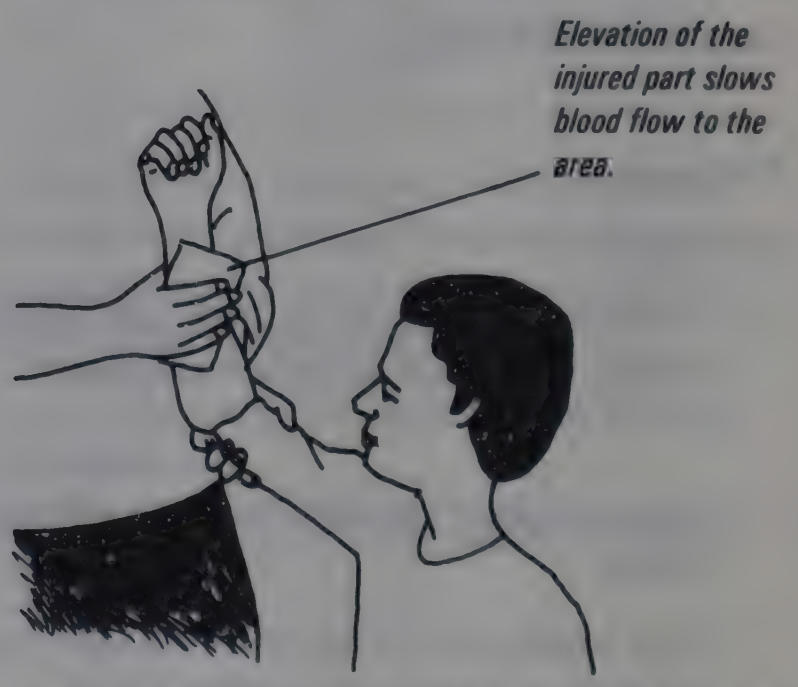
- To control the bleeding.
- To prevent shock.
- To minimise the risk of infection.
- To arrange urgent removal to hospital.

1. Remove or cut clothing to expose the wound. Watch out for sharp objects, such as glass, that might injure you.



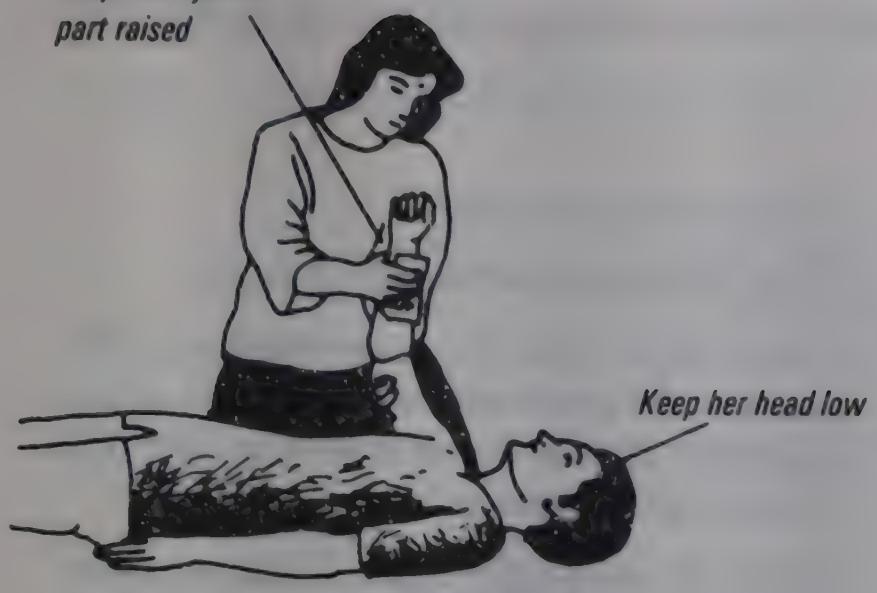
IF you cannot apply direct pressure - for example, if an object is protruding - press down firmly on either side.

2. Apply direct pressure over the wound with your fingers or palm, preferably over a sterile dressing or clean pad - put do not waste time hunting for a dressing.

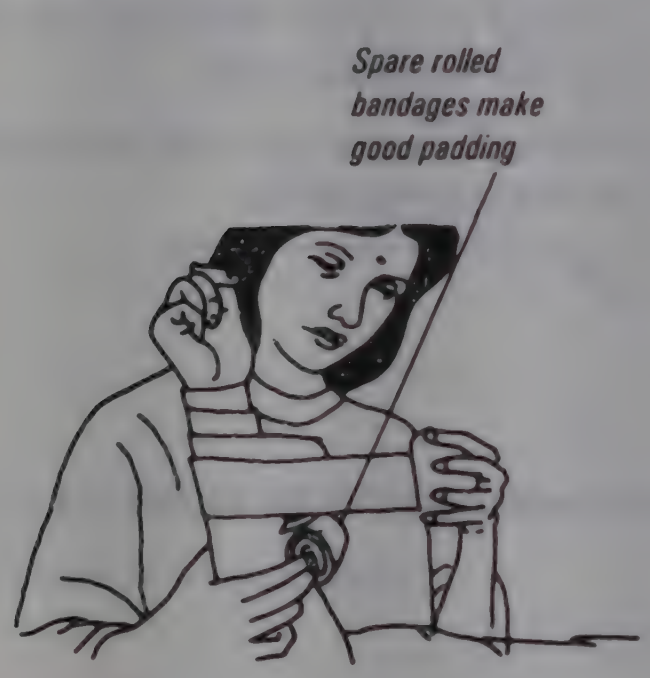


3. Raise and support an injured limb above the level of the casualty's heart. Handle limbs very gently if the injury involves a fracture.

Keep the injured part raised.



4. It may help to lay the casualty down. This will reduce blood flow to the site of injury, and minimise shock.
5. Leaving any original pad in place, apply a sterile dressing. Bandage it in place firmly, but not so tightly as to impede the circulation. If bleeding strikes through the dressing, bandage another firmly over the top.



IF there is a protruding foreign body, build up pads on either side of the object until they are high enough to bandage over the object without pressing on it.

6. Secure and support the injured part as for a broken bone.

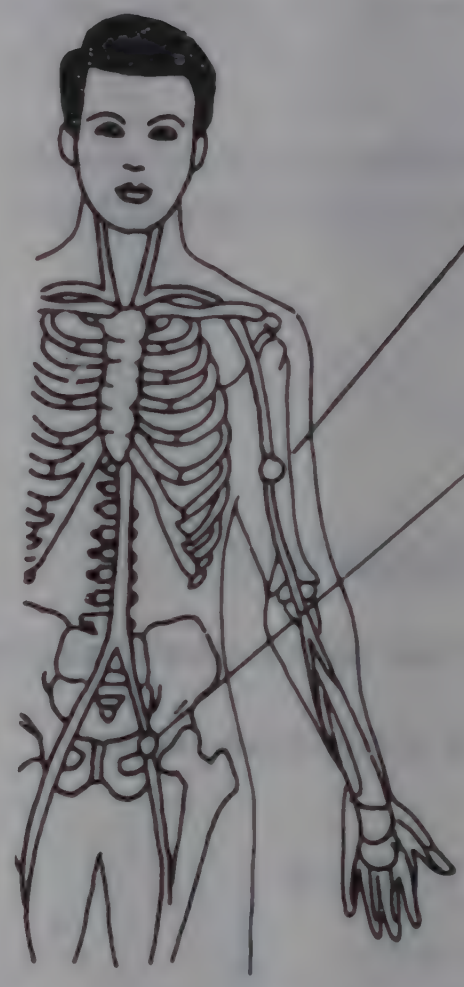
(See page 89)

7. Arrange to shift the patient to nearest hospital/ primary health centre.

Rarely, direct pressure is impossible to apply, or is insufficient to staunch bleeding from a limb. In these cases, indirect pressure may be applied to a "pressure point", where a main artery runs close to a bone. Pressure at these points will cut off the blood supply to the limb. It must not be applied for longer than 10 minutes.

> DO NOT use a tourniquet. It can make the bleeding worse, and may result in tissue damage, and even gangrene.

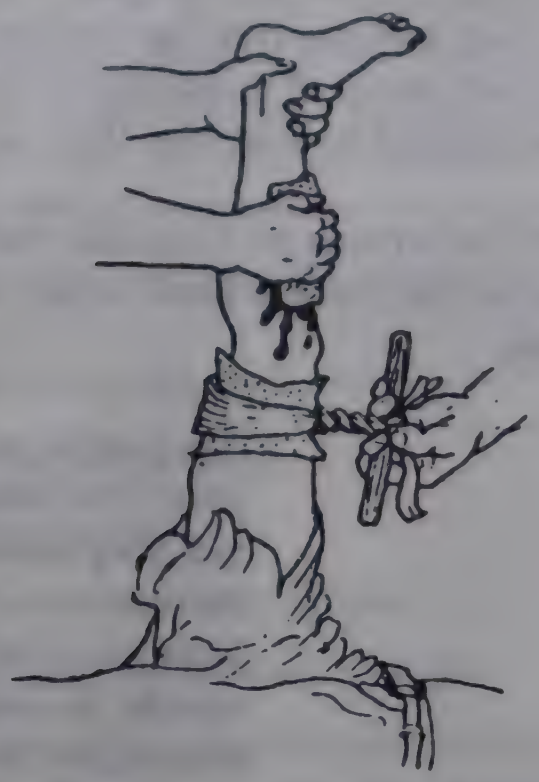
The brachial pressure point : The brachial artery runs along the inner side of the upper arm. Press your fingertips in between the muscles to compress the artery against the bone.



The femoral pressure point.

The femoral artery crosses the pelvic bone in the centre of the groin crease. Lay the casualty down with the knee bent to locate the groin fold, and press very firmly with your thumbs.

8. If the bleeding can not be controlled by pressing on the wound, or the pressure point, and if the person is losing a lot of blood, do the following:



- Keep pressing on the wound.
- Keep the wounded part as high as possible.
- Tie the arm or leg as close to the wound as possible between the wound and the body. Tighten enough to control bleeding. **Do not make it so tight that the arm or leg becomes blue.**
- For the tie, use a folded cloth or a wide belt; **never use thin rope, string, or wire.**

PRECAUTIONS

- Tie the limb only if bleeding is severe and cannot be controlled by pressing directly on the wound, or at the pressure point.
- Loosen the tie for a moment every half an hour to see if it is still needed and to let the blood circulate. Leaving it too long may damage the arm or leg so much that it must be cut off.
- If bleeding or injury is severe, raise the feet and lower the head to prevent shock.

LARGE CUTS : HOW TO CLOSE THEM.

A recent cut that is very clean will heal faster if you bring the edges together so that the cut is closed.

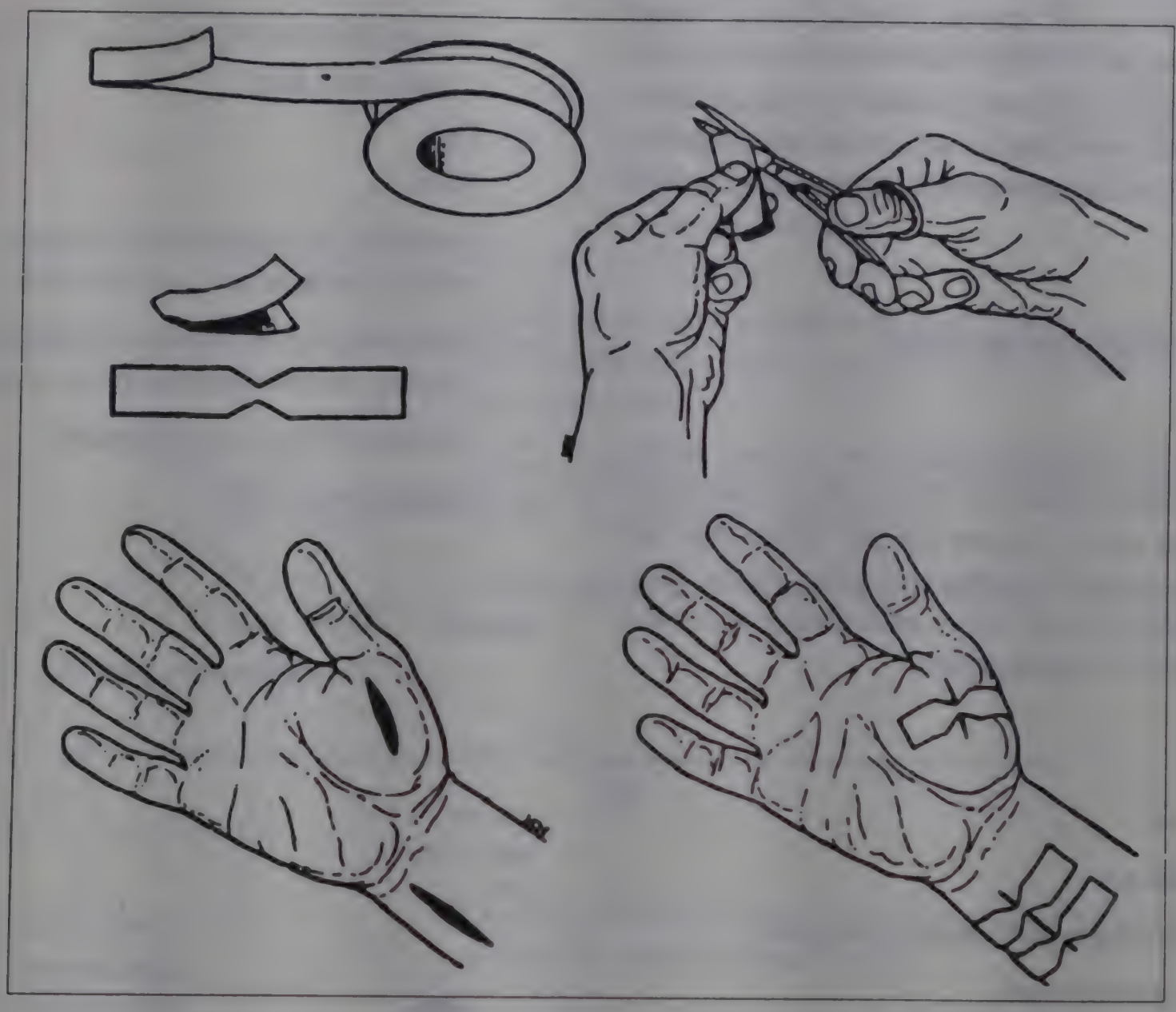
Close a deep cut only if all of the following are true:

- the cut is less than 12 hours old,
- the cut is very clean, and
- it is impossible to get a health worker to close it the same day.

Before closing the cut, wash it very well with boiled water and soap. If possible, squirt it out with syringe and water. Be absolutely sure that no dirt is left hidden in the cut.

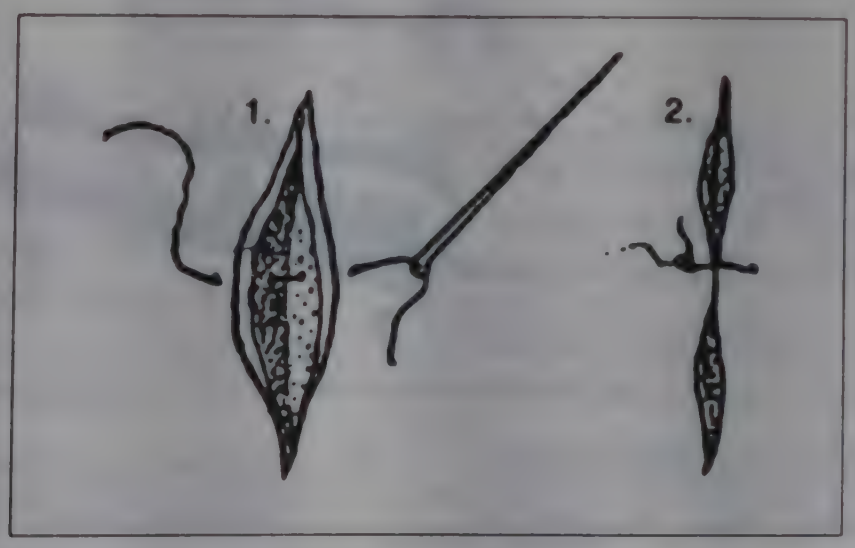
There are two methods to close a cut :

A. 'BUTTERFLY' BANDAGES OF ADHESIVE TAPE.



B. STITCHES OR SUTURES WITH THREAD:

This is best done by a trained person.



13. INTERNAL BLEEDING

Bleeding within the body cavities may follow injury, such as a fracture or penetrating wound, but can also occur spontaneously - for example, bleeding from a stomach ulcer. Internal bleeding is serious; although blood may not be lost from the body, it is lost from the circulation, and shock can develop. In addition, accumulated blood can exert damaging pressure on organs such as the lungs or brain.

When to suspect internal bleeding

Suspect it if, following injury, signs of shock develop without obvious blood loss. At the site of violent injury, there may also be "pattern bruising" discoloration that takes the pattern of clothes or crushing objects. These may be blood at body orifices, either fresh or mixed with the contents of injured organs.

RECOGNITION

There may be :

- Pallor
- Cold, clammy skin
- A rapid, weak pulse
- Pain
- Thirst
- Confusion, restlessness and irritability, possibly leading to collapse and unconsciousness.
- Information from the casualty indicating recent injury or illness, previous similar episodes, or drug-taking.
- After violent injury, pattern bruising.
- Bleeding from orifices.

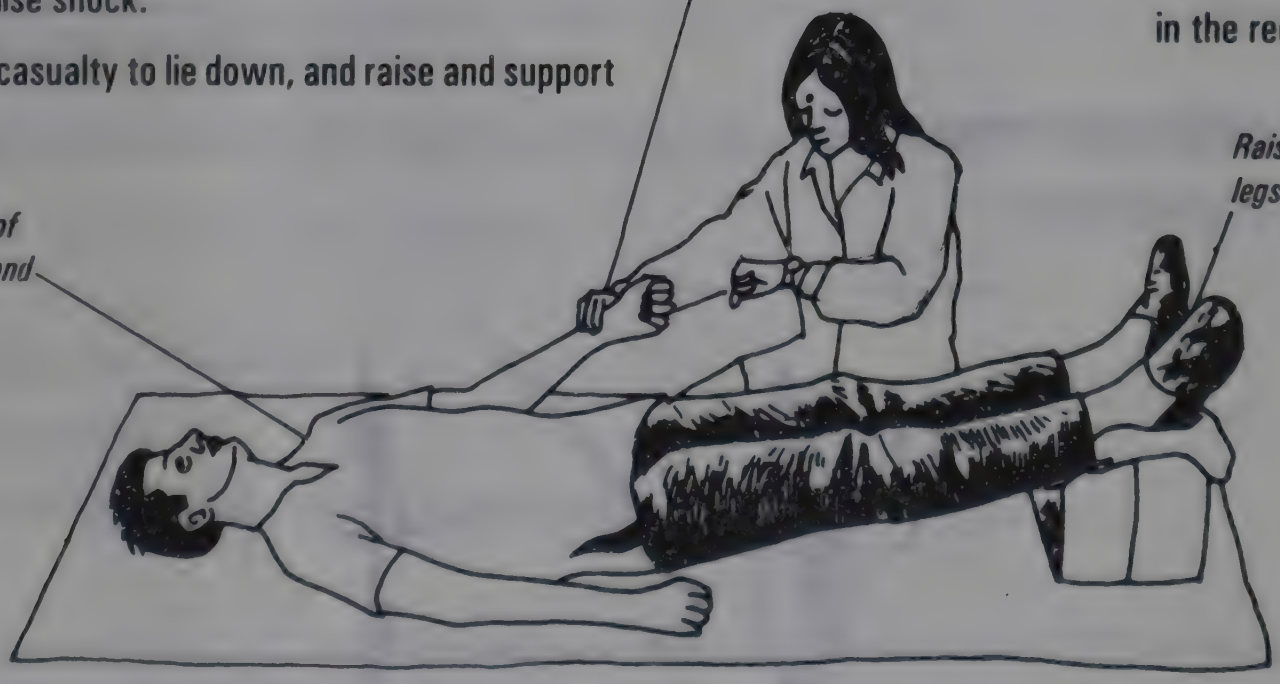
See also: Shock, page 51
Unconsciousness, page 52

Treatment

Your aims are :

- To arrange urgent removal to hospital.
- To minimise shock.

1. Help the casualty to lie down, and raise and support his legs.



If the casualty loses consciousness, place him in the recovery position.

2. Rush for ambulance. Insulate the casualty from cold. Check and record breathing, pulse, and level of response every 10 minutes.

3. Note the type, amount and source of any blood loss from body orifices. If possible, send a sample with the casualty to the hospital.

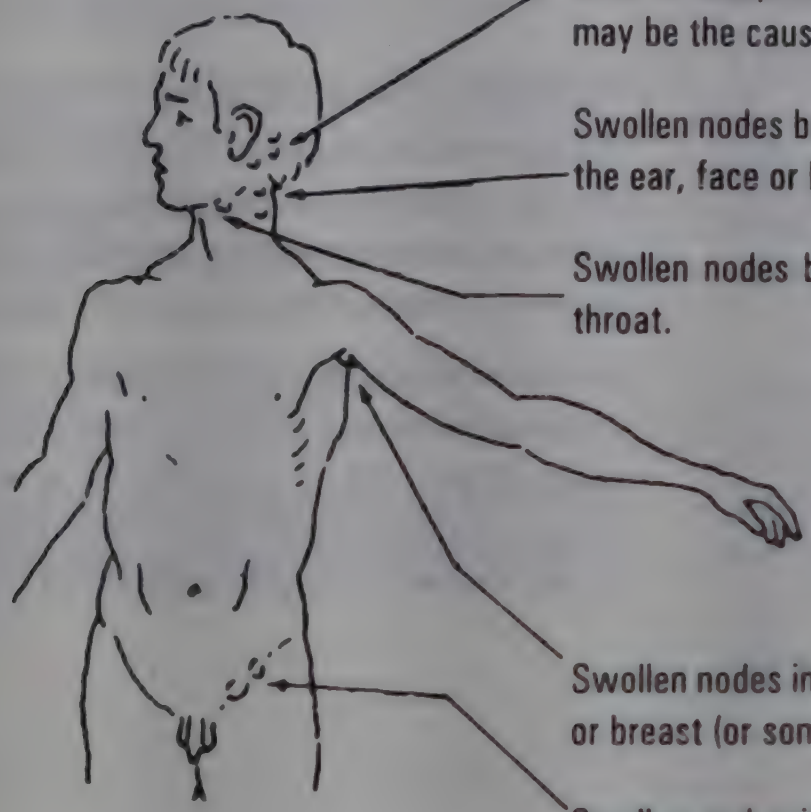
14. INFECTED WOUNDS : How to recognize & Treat them :

A wound is infected if :

- it becomes **red, swollen, hot** and **painful,**
- it has pus,
- or it begins to smell bad.

The infection is spreading to other parts of the body if :

- it causes **fever,**
- there is **red line above the wound,**
- or if the **lymph nodes become swollen and tender.** Lymph nodes - often called 'glands' - are little traps for germs that form small lumps under the skin when they get infected.



Swollen lymph nodes behind the ear point to an infection on the head or scalp, often caused by sores or lice. Or German measles may be the cause.

Swollen nodes below the ear and on the neck indicate infections of the ear, face or head (or tuberculosis)

Swollen nodes below the jaw indicate infections of the teeth or throat.

Swollen nodes in the arm pit indicate an infection of the arm, head, or breast (or some times breast cancer).

Swollen nodes in the groin indicate an infection of the leg, foot, genitals or anus.

TREATMENT

- Put hot compresses over the wound for 20 minutes, 4 times a day. Hold an infected hand or foot in a bucket of hot water with salt soap or potassium permanganate (1 teaspoon to a bucket).
- Keep the infected part at rest and elevated (raised above the level of the heart).
- If the infection is severe or the person has not been vaccinated against tetanus, use an antibiotic like penicillin or co-trimoxazole. Refer.

WARNING : IF the wound has a bad smell; if brown or grey liquid oozes out, or if the skin around it turns black and forms air bubbles or blisters, this may be gangrene. Seek medical help fast. Meanwhile follow the instructions for gangrene.

WOUNDS THAT ARE LIKELY TO BECOME DANGEROUSLY INFECTED.

These wounds are most likely to become dangerously infected:

- dirty wounds, or wounds made with dirty objects,
- puncture wounds and other deep wounds that do not bleed much,
- wounds made where animals are kept : in cowsheds, pigpens etc.,
- large wounds with severe mashing or bruising,
- bites, especially from pigs, dogs or people,
- bullet wounds.

Special care for this type of 'high risk' wounds :

1. Wash the wound well with boiled water and soap. Remove all pieces of dirt, blood clots, and dead or badly damaged flesh. Squirt out the dirt using a syringe or suction bulb.
2. Soak the wound in water with potassium permanganate (1 teaspoon to a bucket). Then paint the wound with gentian violet and cover with a clean bandage.
3. If the wound is very deep, if it is a bite, or if there is a chance that it still has dirt in it, use an antibiotic. The best is ampicillin, in capsules or in the most serious cases, injections. If you cannot afford ampicillin, use penicillin, tetracycline, or co-trimoxazole. For dosages see 'The village medical kit' book.
4. Never close this type of wound with stitches or 'butterfly' bandages. Leave the wound open.

The danger of tetanus is very great in people who have not been vaccinated against this deadly disease. To lower the risk, a person who has not been vaccinated against tetanus should use penicillin or ampicillin immediately after receiving a wound of thus type, even if the injury is small.

If a wound of this type is very severe, a person who has not been vaccinated against tetanus should take large doses of penicillin or ampicillin for a week or more. Tetanus antitoxin should also be considered but be sure to take the necessary precautions in its use.

TETANUS

This is a dangerous infection that can develop if tetanus germs enter a wound. These germs are carried in the air and in soil as spores. When present in damaged and swollen tissues, they may release a poisonous substance (a toxin) that spreads through the nervous system, causing muscle spasms and paralysis.

Preventing tetanus

Tetanus is very difficult to treat, but can be prevented by immunisation, which is part of a baby's vaccination programme. Boosters are given on starting, and on leaving school.

Adults should receive further boosters every ten years.

Always ask a wounded casualty when he or she had a tetanus injection. (It is also called TT injection)

Give one injection of TT:

- If the casualty has never been immunised.
- If the last injection was more than ten years ago.
- If the casualty cannot remember when the last injection was given.

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15. DRESSINGS

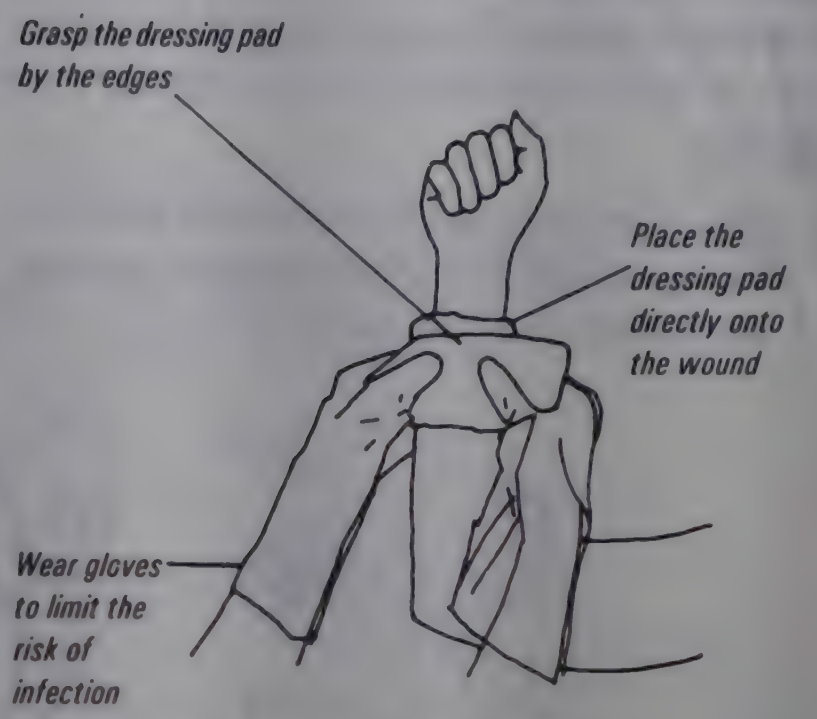
A. GENERAL PRINCIPLES

Although dressings may stick to a wound, their benefits outweigh any discomfort caused on removal. They cover the wound, protect against germs, and help the blood-clotting process. Use a purpose-made, per-packed sterile dressing whenever possible. If none is available, use any clean, non fluffy material, such as a triangular bandage or handkerchief, to improvise a dressing. Do not use fluffy materials, which may stick to, and contaminate, the wound.

General rules for applying dressings

- The dressing pad should always extend well beyond a wound's edges.
- Place dressings directly on a wound. Do not slide them on from the side, and replace any that slips from place.
- If bleeding strikes through a dressing, do not remove it; instead, apply another dressing over the top.
- If there is only one sterile dressing, use this to cover the wound, and use other clean materials as top dressings.

To minimise the risk of introducing germs from your breath or fingers to an open wound:



- Wear disposable gloves, if available.
- Where possible, wash your hands thoroughly before dressing a wound.
- Avoid touching the wound, or any part of the dressing that will come into contact with the wound.
- Try not to talk, sneeze, or cough over a wound.

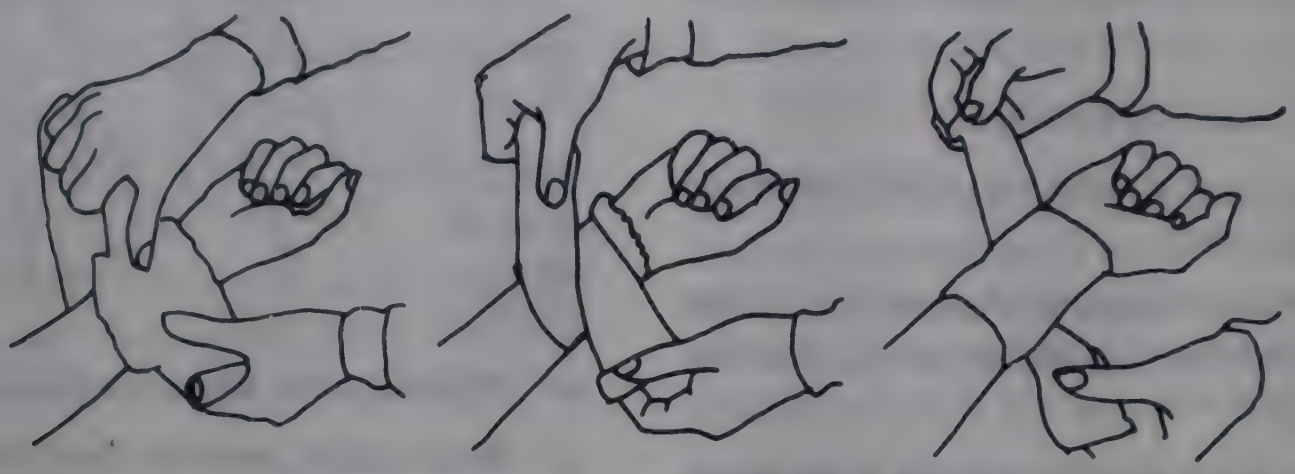
B. STERILE DRESSINGS

Also known as "ambulance dressing". These consist of a dressing pad with a bandage attached. The dressing pad is made up of a pad of gauze or lint backed by a layer of cotton wool padding. Sterile dressings are sold in single unit in a protective wrappings. If the seal in a sterile dressing is broken, the dressing is no longer sterile.

METHOD

1. Remove the wrapping, and find the loose end of the bandage and unwind it. Unfold the sterile pad being careful not to touch it as you do so.

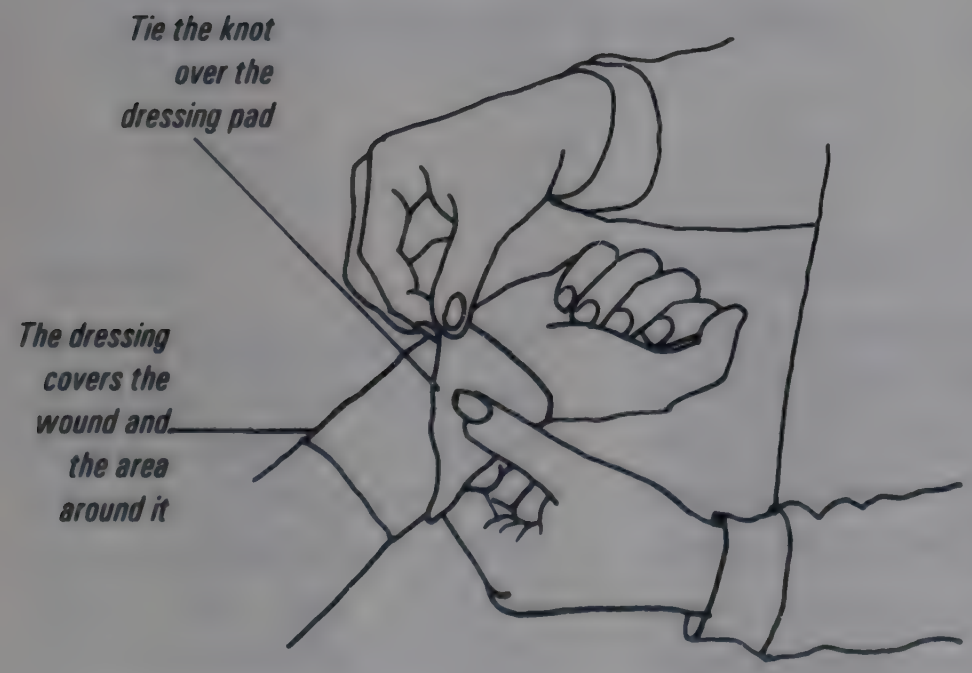
> DO NOT bandage so tightly that circulation is impeded



2. Holding the bandage on either side of the pad. Place the pad directly on to the wound.

3. Wind the shorter end of the bandage once around the limb and dressing to secure pad.

4. Wind the other end across and below the loose short end, until the whole pad is covered.



If the dressing slips from place remove it and apply a new dressing.

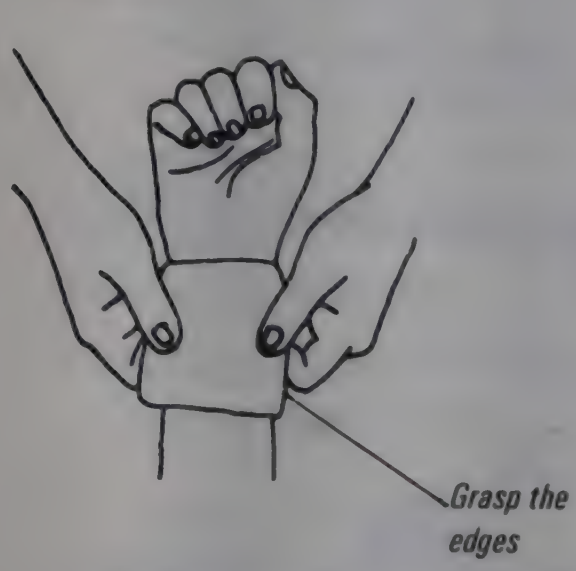
5. Secure the bandage by tying the ends in a reef knot. Tie the knot over the pad to exert firm pressure over the wound. If the bleeding strikes through the dressing, do not remove it. Apply another dressing over the top.

6. Check the circulation.

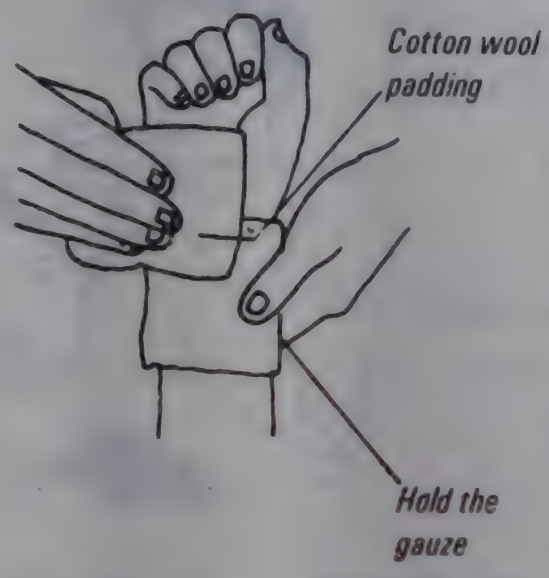
C. GAUZE DRESSING

If a sterile dressing is not available, gauze pads may be used. These are made from layers of gauze that form a soft, pliable covering for wounds. Cover the gauze with pads of cotton wool to absorb blood or discharge. Use adhesive strapping to secure the dressing., or a roller bandage if pressure is required. If using strapping, do not completely encircle a limb or digit, as this can impede the circulation. Some people's skin reacts to the adhesive used on strapping, so ask before using it.

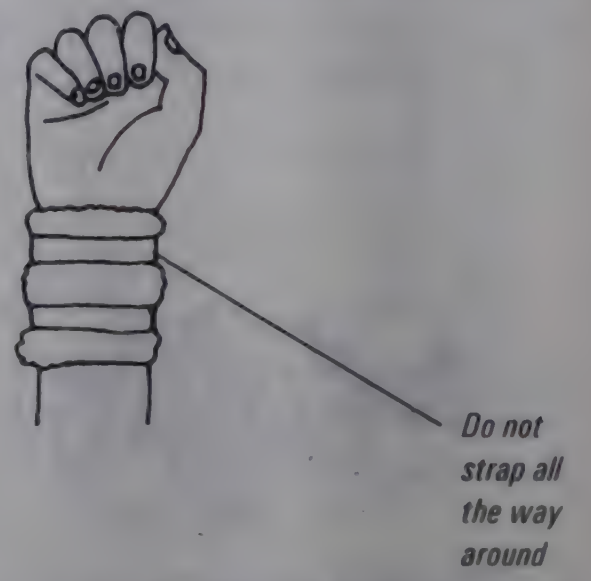
METHOD



1. Holding the gauze pad by the edges, place it directly on to the wound.



2. Add a layer of cotton wool padding on top of the gauze.



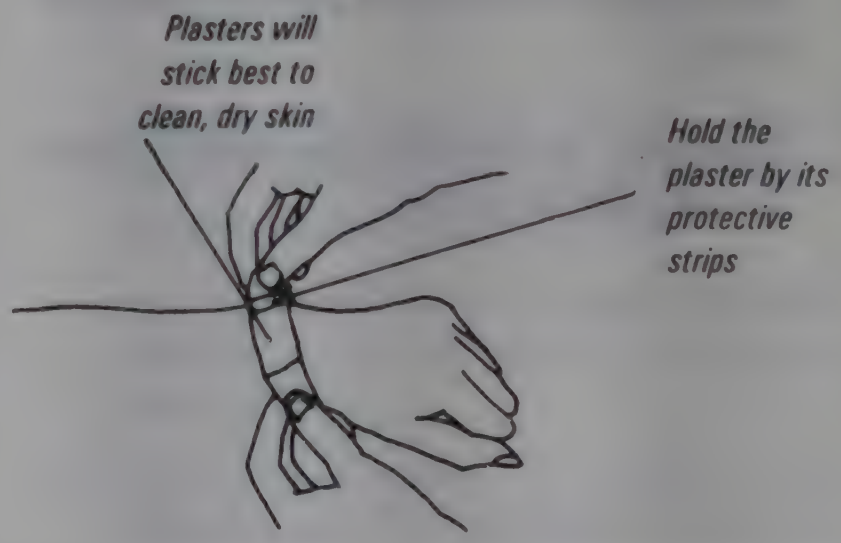
3. Secure with adhesive strapping, or a roller bandage.

D. ADHESIVE DRESSINGS

Commonly known as "plasters" these are useful for small wounds. They consist of a gauze or cellulose pad attached to an adhesive backing. They come in various sizes. Usually as individually wrapped sterile units. Food handlers are required to wear waterproof plasters, preferably coloured, on cuts and grazes on their hands.

METHOD

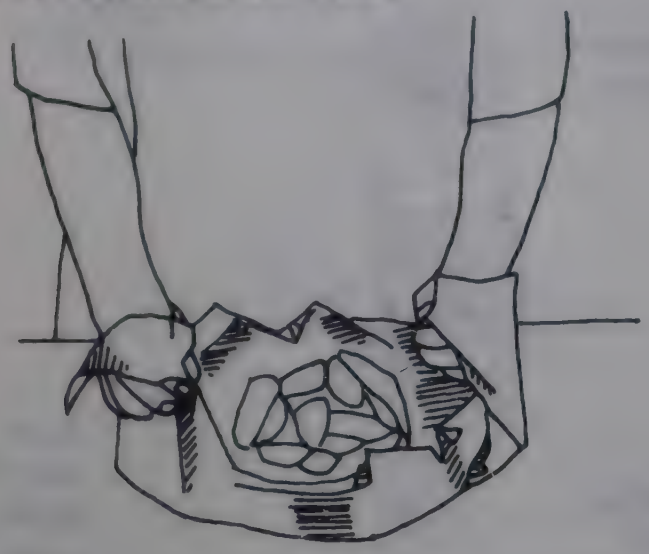
1. Remove the wrapping and hold the dressing, pad-side down, by the protective strips.
2. Peel back, but do not remove, the protective strips. Without touching the dressing pad, place it directly on to the wound.
3. Carefully pull away the protective strips. Press the ends and edges down.



E. COLD COMPRESSES

Cooling an injury such as a bruise or sprain can help reduce swelling and pain. You can place the injured part directly under cold running water, or in a bowl of cold water. When injuries are on an awkward part of the body, such as the head, or chest, or when they need prolonged cooling, use a cold compress. This can be a pad soaked in very cold water, or an ice bag wrapped in cloth.

F. APPLYING AN ICE-PACK



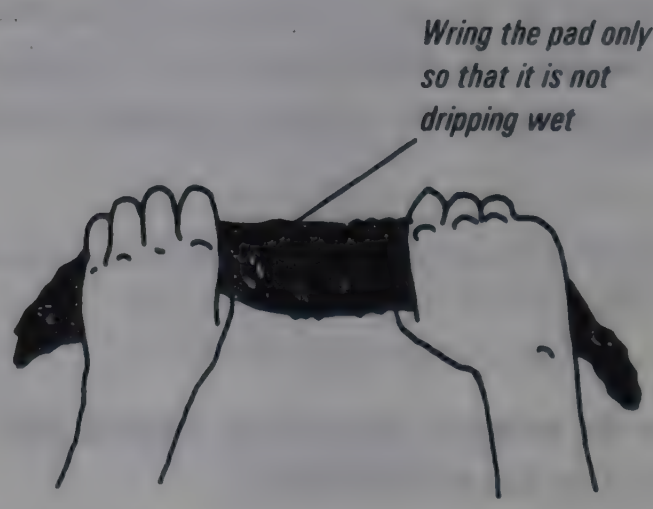
1. Fill a plastic bag half to two-thirds full with small ice or, preferably, crushed ice. Knot the top of the bag, and wrap in a piece of cloth. Such as a hand-towel or triangular bandage.
2. Place the ice pack over the injury. You may use a roller bandage (see page 79) to hold it firmly in position.
3. Continue to cool the injury for 20 minutes, replacing the ice in the pack as necessary.

G. APPLYING A COLD PAD

1. Soak a flannel or towel in very cold water. Wring it out so that it remains cold and damp, and place it on the injury and the surrounding area.

2. Re-soak the pad in cold water every 5 minutes to keep it cold. Cool the injured part for at least 20 minutes.

   IF necessary, you may use a roller bandage to keep the cold pad firmly in place.



16. BANDAGES

A. GENERAL PRINCIPLES

Bandages have a number of purposes; they are used to hold dressings in place to control bleeding, to support and immobilize injuries, and to reduce swelling. There are three main types:

- Triangular bandages, which are usually made of cloth; they are used as slings, and also to secure dressings and to immobilize injured limbs.
- Roller bandages, which secure dressings, and can give support to limbs.
- Tubular bandages, which can secure dressing as digits, or support joints.

In an emergency, bandages can be improvised from pieces of cloth, or from items of clothing.

GENERAL RULES FOR BANDAGING

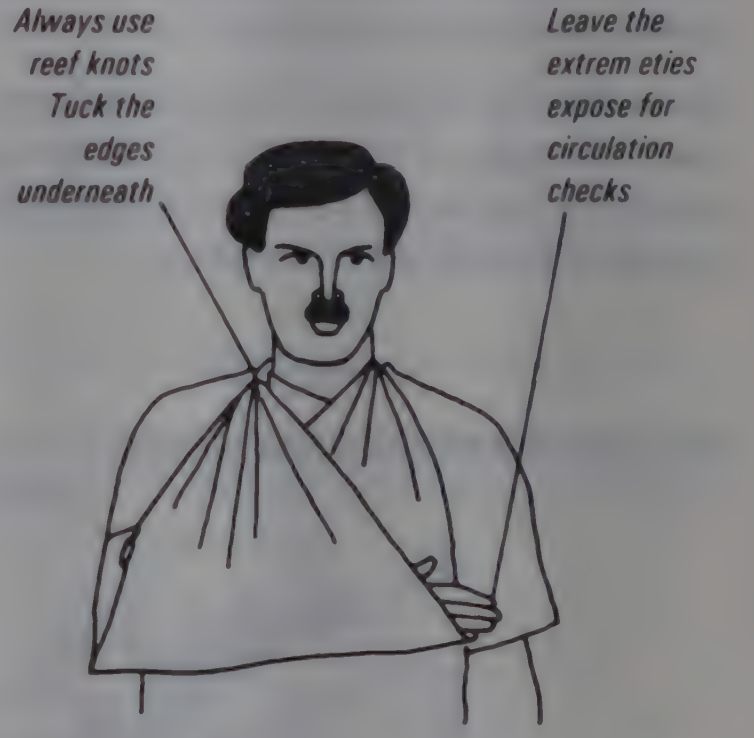
Before applying bandages:

- Explain to the casualty what you are going to do, and keep reassuring him.

- Make the casualty comfortable in a sitting or lying position, if possible.
- Keep the injured part supported. The casualty may be able to do this for you.
- Always work in front of the casualty. And from the injured side where possible.

When applying bandages

If the casualty is lying down, pass bandages under the body's natural hollows at the ankles, knees, small of back and neck. Slide bandages towards the injured area by easing them back and front.



- Apply bandages firmly enough to control any bleeding and hold a dressing in place, but not so roughly as to impede the circulation (see opposite)
- Leave fingers and toes on a bandage limb exposed, if possible, so that you can check the circulation afterwards.
- Ensure knots do not hurt the casualty. Use reef knots, tucking the end underneath, and do not knot over bony areas.

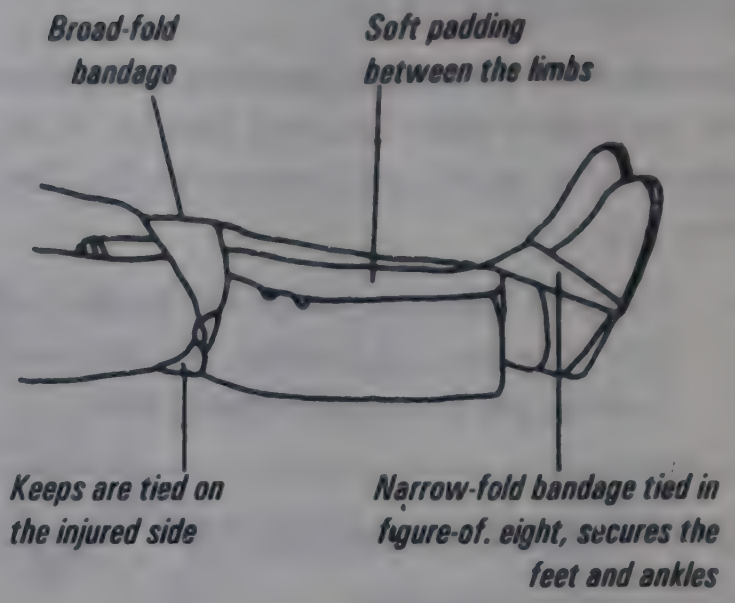
When bandage is to immobilise a limb :

- Make sure there is padding between the limb and body, or between the legs, especially around the joints. Use towels, cotton wool, or folded clothing, and insert the padding before tying the bandages.
- Tie knots at the front of the body on the uninjured side, avoiding bony areas. If both sides of the body are injured, tie the knots in the middle of the body.

After applying bandages

- Check the circulation in a bandaged limb every 10 minutes (see below). Ensure that the blood flow is not impeded.

Bandaging to immobilise a leg



CHECKING THE CIRCULATION

You must check the circulation in a hand or foot immediately after bandaging a limb, and again every 10 minutes until medical aid is obtained.

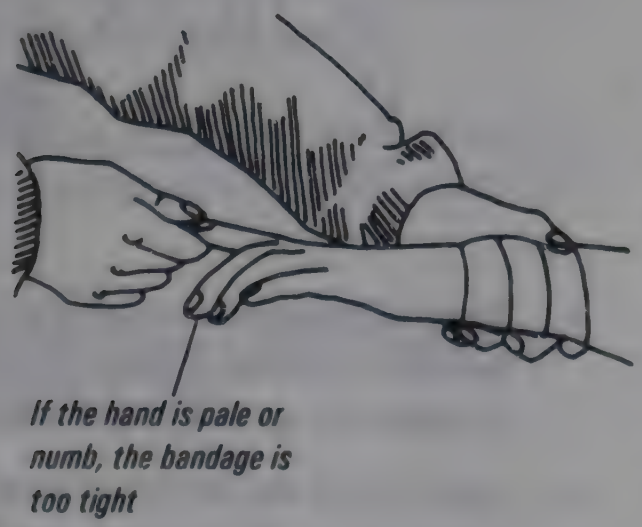
Re-checking the circulation is important because limbs swell following as injury, and a bandage applied immediately after an injury occurred can quickly become too tight and impede the circulation.

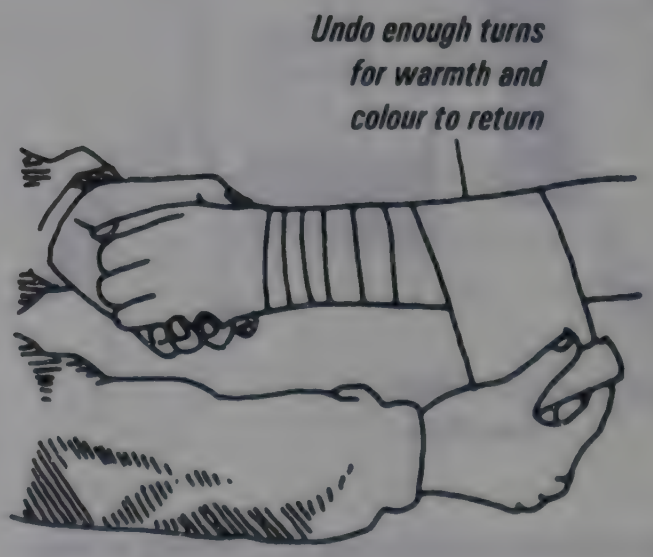
RECOGNITION OF IMPAIRED CIRCULATION

There may be :

- Pale, cold skin on the hand of foot.
- Later, a dusky grey/blue appearance to the skin.
- Tingling or numbness.
- Inability to move the affected part.

CHECKING FOR IMPAIRED CIRCULATION.





1. Press one of the nails, or the skin of the hand or foot, until it is pale. On releasing the pressure, the colour should quickly return. If the nail bed or skin remains pale, the bandage is too tight.
2. Loosen tight bandages by unrolling just enough turns for warmth and colour to return to the extremity. The casualty may feel a tingling sensation. Reapply the bandage as necessary.

B. ROLLER BANDAGES

These are used to secure dressing, to apply pressure to control bleeding, and to give support to sprains or strains. They are made of cotton, gauze, or linen, and are applied in spiral turns. Roller bandages may be secured with pins, clips, or tape, but can also tied off (see below)

Types of roller bandage

There are three principal types :

- Open-weave bandages, which are used to hold light dressings in place. Because of their loose weave, they allow good ventilation, but cannot be used to exert pressure on the wound, or to give support to joints.
- Conforming bandages, which are used to secure dressings and to provide light support to injuries.
- Crepe bandages, which are used to give firm support to joints.

Sizes of roller bandage

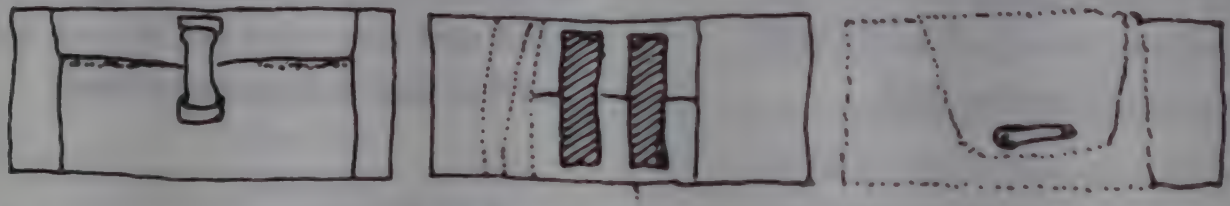
Before applying a roller bandage, make sure it is tightly rolled and of a suitable width. Remember that is better for a bandage to be too wide than too narrow; use the chart below to help you choose the right size.

Choosing the best size

Different parts of the body require different widths of roller bandage. These are the recommended sizes for a adult.

Finger	2.5 cm (1 in.)
Hand	5 cm (2 in.)
Arm	7.5 cm (3-4 in.)
Leg	10-15 cm (4-6 in.)

Securing roller bandages



Bandage clips

These are some times supplied with elastic or crepe roller bandages.

Adhesive tape

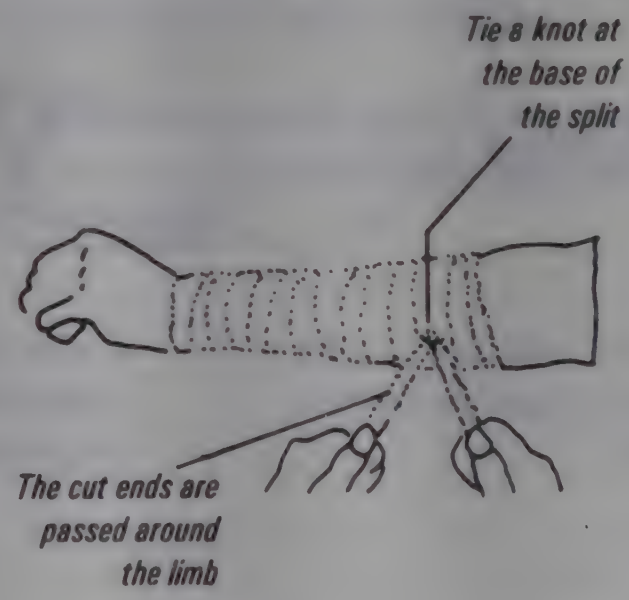
The ends of bandages can be stuck down with small strips of adhesive strapping.

Safety pins

These are often readily available, and can secure all types of roller bandages

Tying off roller bandages

1. After applying a roller bandage (see next) leave enough of the end free to allow it to pass around the limb once and tie a knot.
2. Cut down the centre of the loose end and tie a knot at the bottom of the split.
3. Pass the end once around the limb, one in each direction, and tie them in a reef knot (see page 83).

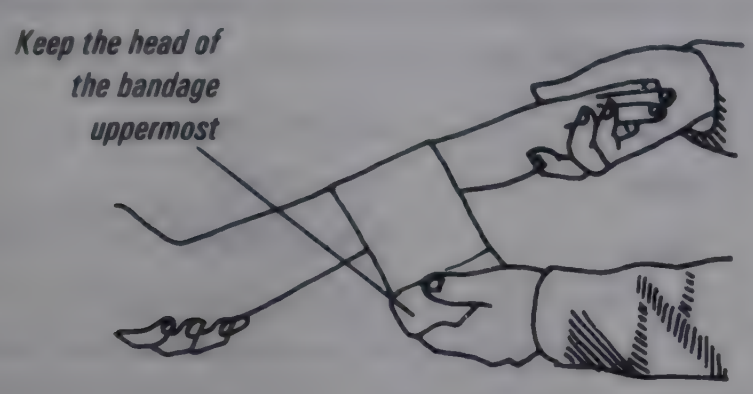


APPLYING A ROLLER BANDAGE

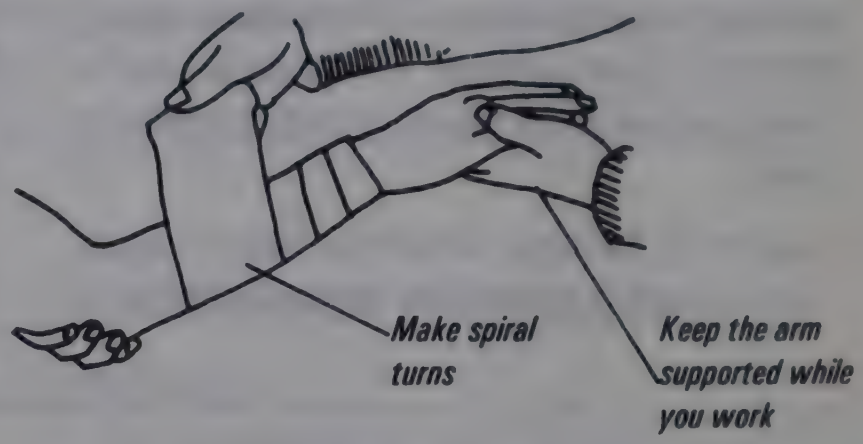
Follow these general rules when applying roller bandages;

- When the bandage is partly unrolled, the roll is called the 'head', and the unrolled part, the 'tail'. Keep the head uppermost when bandaging.
- position yourself in front of the injury.
- support the injured part in the position it will remain in after bandaging.
- To begin bandaging, place the tail to the limb. Make two straight turns with the head to anchor the bandage.
- Make spiral turns with the outwards, working from the inner side upwards.
- Check the circulation beyond a bandage, especially when using conforming and crepe bandages; these mould to the shape of the limb, and may become tighter if the limb swells.

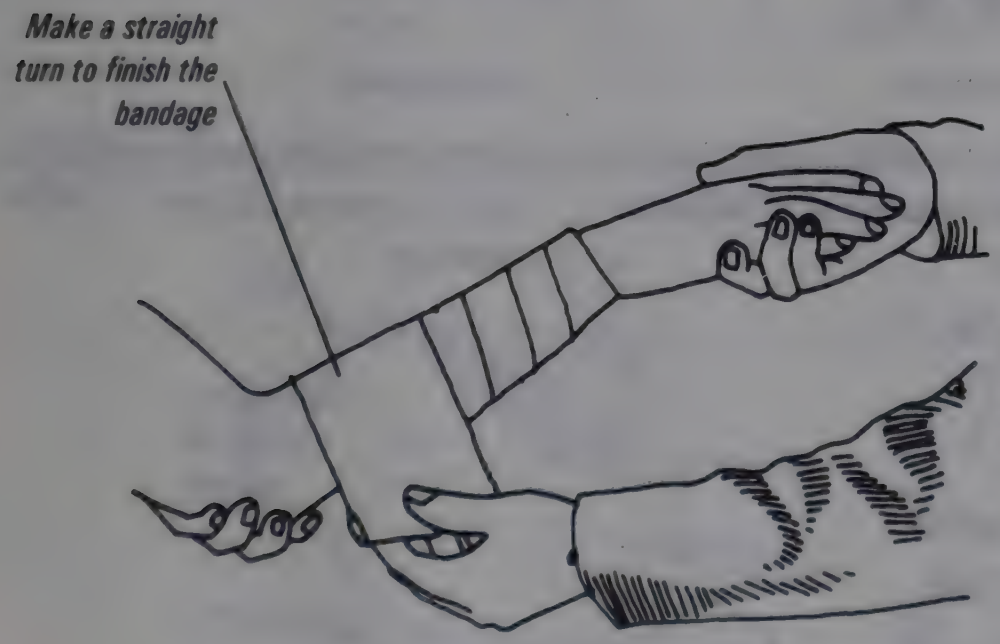
METHOD

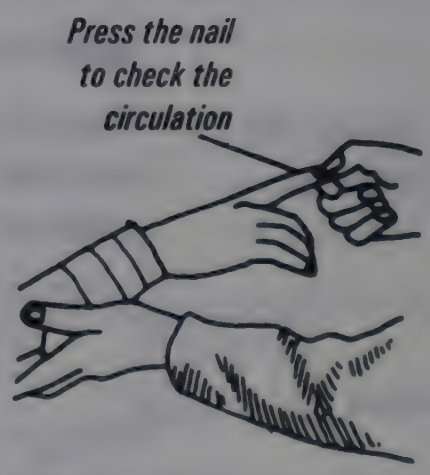


1. Place the tail of the bandage below the injury and, working from the inside of the limb outwards, make two straight turns with the bandage head.



2. Make a series of spiral turns, working up the limb. Allow each successive turn to cover between a half and two-third of the previous layer.





3. Finish off with one straight turn, and secure the end (see opposite)

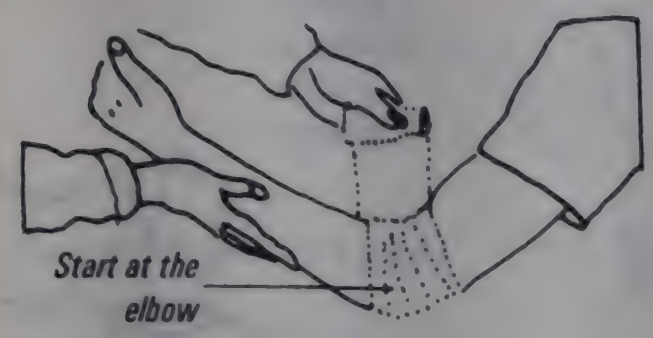
IF the bandages is too short, apply another one in the same way to extend it.

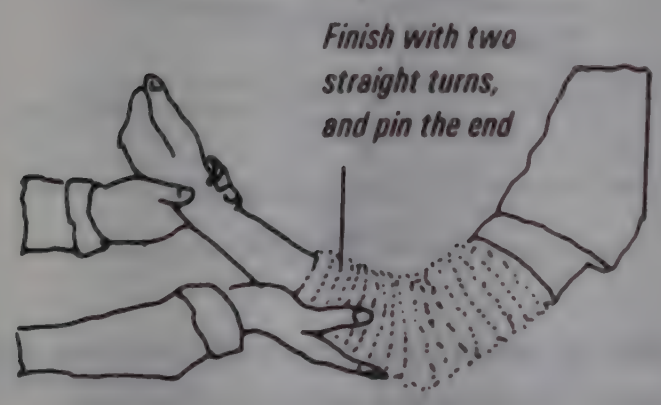
4. Check the circulation in the injured limb. If the bandage is too tight, partially undo, and reapply it more loosely.

C. ELBOW AND KNEE BANDAGE

Roller bandages can be used at these joints to hold dressings in place, or to support soft tissue injuries such as strains or sprains. Always make sure that your bandaging extends sufficiently far on either side to exert even pressure. The method shown below, for bandaging an elbow, can also be used for a knee.

METHOD





1. Support the injured arm in a semi flexed position. If this is not possible, support the arm in the position most comfortable for the casualty.

2. Place the tail of the bandage on the inside of the elbow, and pass the bandage around the elbow 11/2 times, so that elbow joint is covered

3. Take the head of the bandage above the elbow to the upper arm, and make one turn, covering half of the bandage from the first turn.

4. Take the head of the bandage under the elbow to just below the joint, and make one turn around the lower arm, covering half of the first turn.

5. Continue to alternate these turns. Steadily extending the bandaging by covering only between half and two-third of the previous layer each time.

DO NOT bandage so tightly that circulation is impeded.

6. Make two straight turns to finish off, and secure the end.

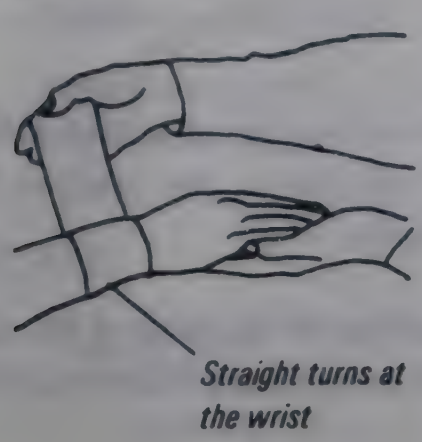
7. Check and re-check the circulation. This is particularly important with this type of bandaging.

   If the bandage is too tight, undo it until the blood supply to the hand returns, then re-bandage more loosely.

D. HAND AND FOOT BANDAGES

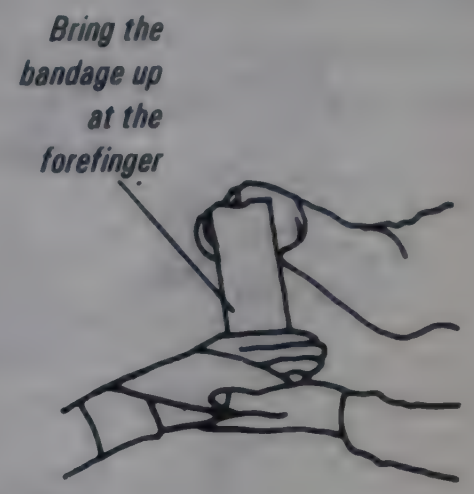
A roller bandage may be used to hold dressings in place on the hand or foot, or to provide support to wrists or ankles that have been sprained or strained. Support bandaging should extend well beyond the joint to provide pressure over the injured area. The method below; for bandaging a hand can also be used for a foot.

METHOD

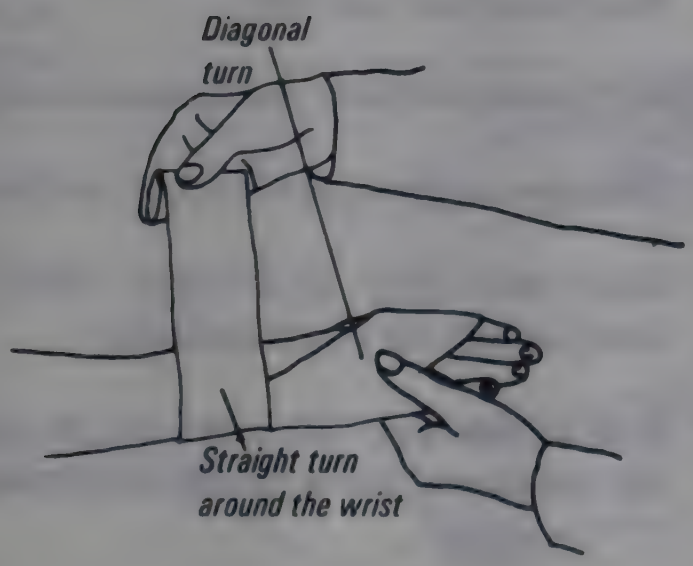


1. Support the casualty's arm. Place the tail of the bandage on the inside of the wrist, at the base of the thumb, and make two straight turns.

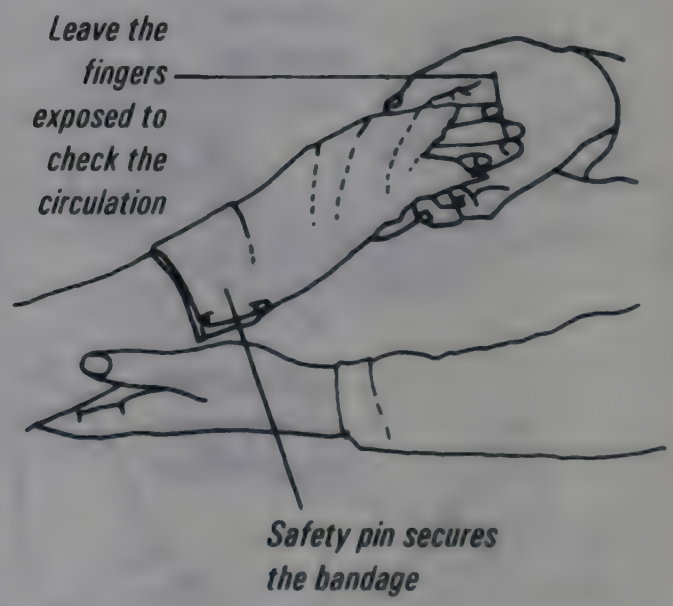
2. Take the bandage diagonally across the back of the casualty's hand, so that the edge meets the base of the nail of the little finger.



3. Take the bandage under and around fingers, and up at the forefinger, so that the edge is at the base of the nail of the forefinger.



4. Take the bandage diagonally across the back of the wrist, and then around the wrist and up.
5. Repeat the sequence of turns, covering three-quarters of the bandage from the previous turn each time. Work towards the wrist, leaving the thumb free.

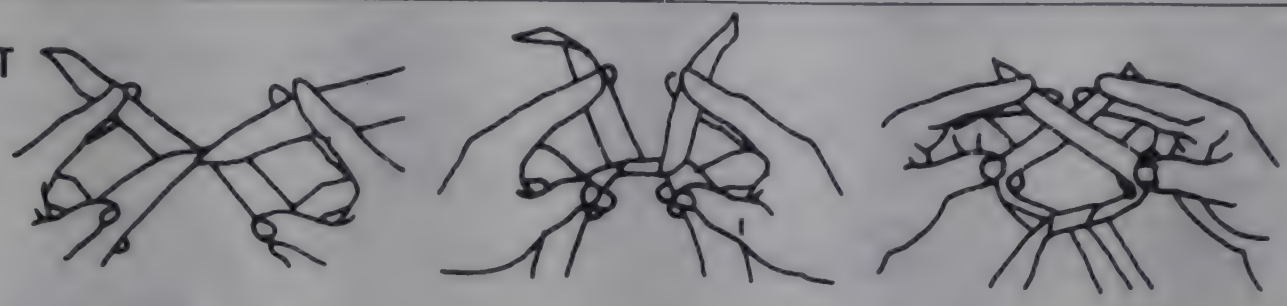


6. When the whole hand is covered, make two straight turn at the wrist and secure the bandage.
7. Check the circulation in the hand. If the bandage is too tight, undo it as much as is necessary, and reapply it more loosely.

E. REEF KNOTS

Always use reef knots when tying bandages. They lie flat, are more comfortable for the casualty, will not slip, and are easy to untie. Once the knot is tied, tuck the ends underneath it so that the knot does not press into the casualty's flesh.

TYING A REEF KNOT



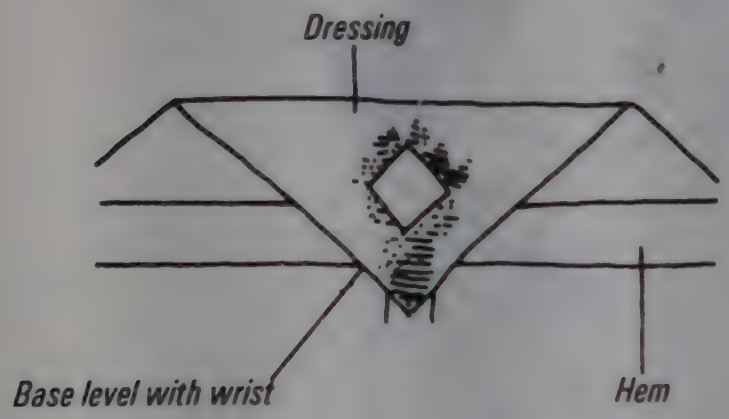
1. Pass the left end over the right, and under.
2. Bring both ends up again
3. Pass the right end over the left, and under

4. Pull the ends firmly. This tightens and completes the knot.
5. To untie a reef knot : Pull one end and one piece of bandage apart.
6. Holding the knot. Pull the end straight through it and out.

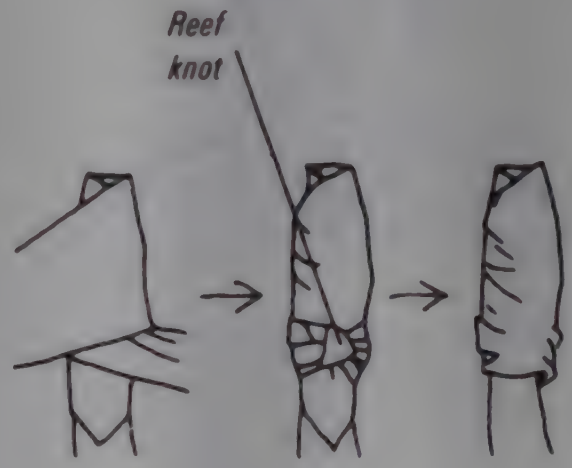
HAND AND FOOT BANDAGE

A triangular bandage may be used to secure a dressing on a hand or foot, though this type of bandage cannot exert enough pressure to control bleeding. The method shown below, for a hand, can also be used for a foot.

METHOD



1. Fold a hem along the base of the bandage. Place the casualty's hand, dressing uppermost, on the bandage, and bring the point over to the wrist.

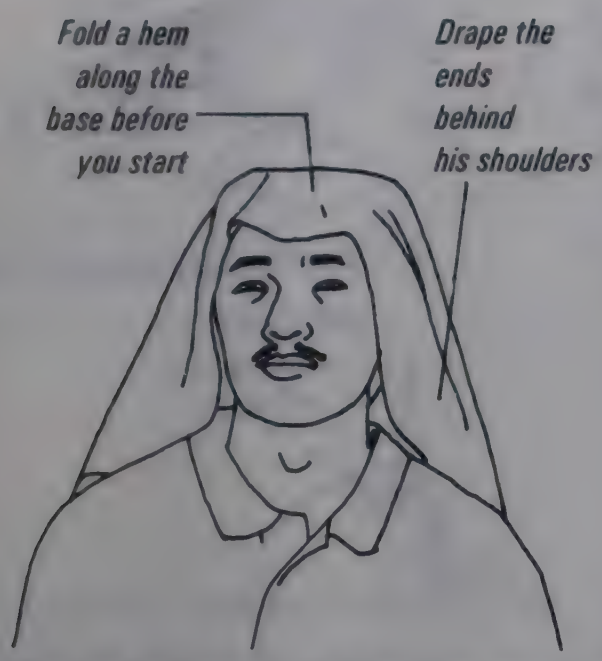


2. Pass the two ends around the wrist, cross them, and tie off. Pull the point to tighten the bandage, bring it up over the knot, and tuck it in underneath.

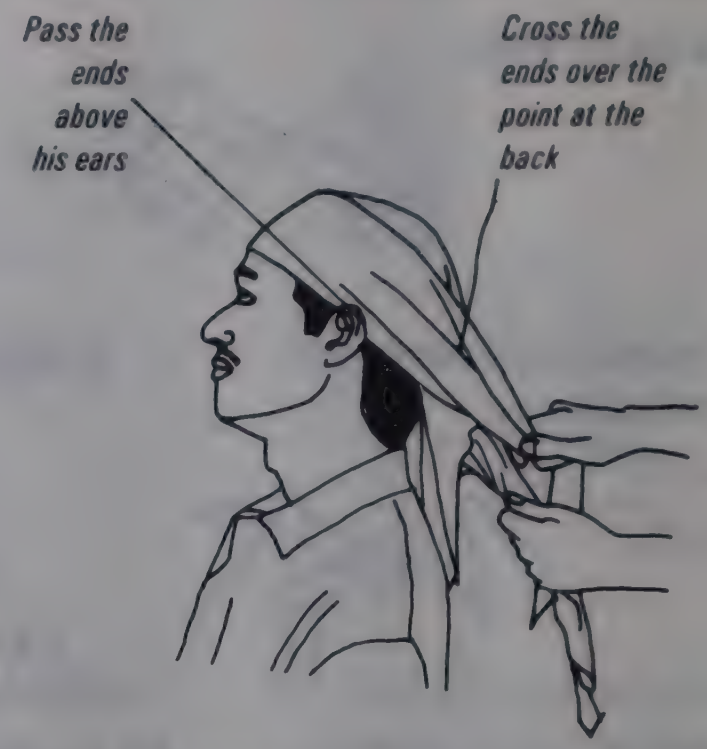
F. SCALP BANDAGE

An unfolded triangular bandage may be used to hold a light dressing in place on the scalp, though it cannot exert enough pressure to control bleeding. If possible, sit the casualty down, this makes it easier to apply the bandage.

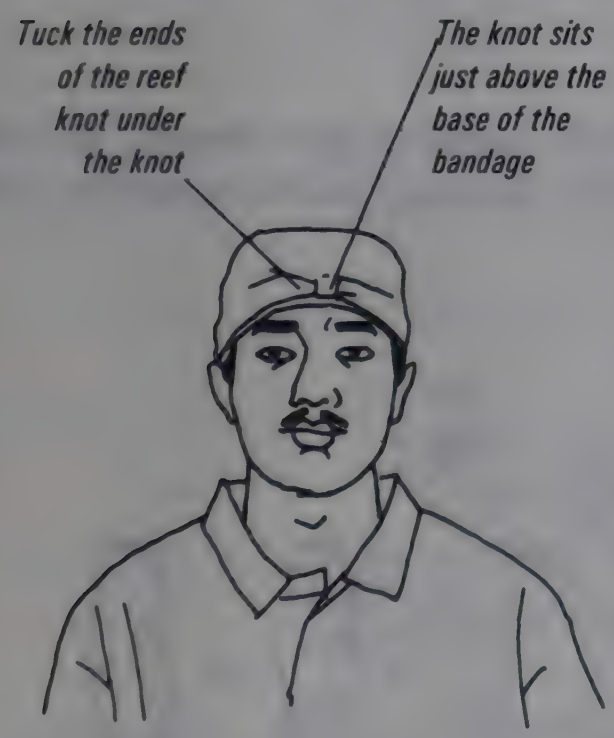
METHOD

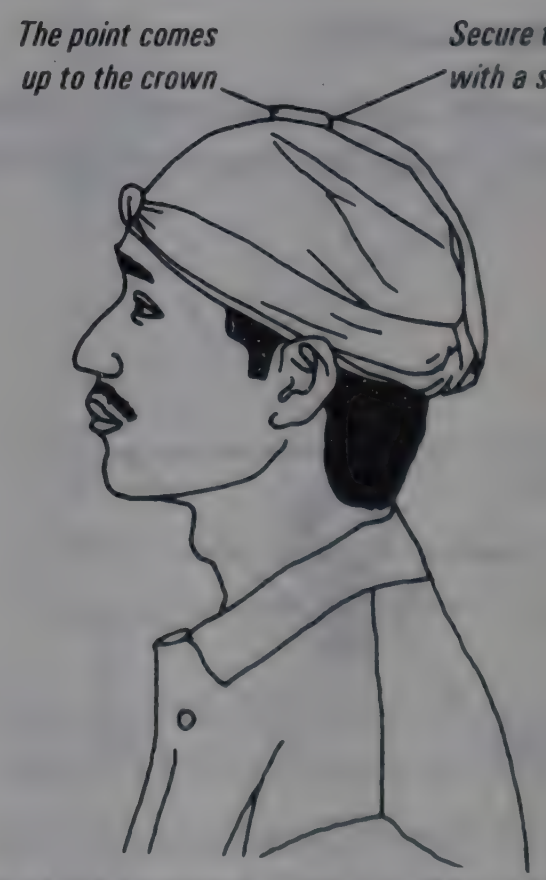


1. Centre the base of the bandage on the casualty's forehead, so that it lies just below the eyebrows. Let the point hang down at the back of the head.



2. Bring the ends around the head, just above the ears, to the back. Cross the two ends over the point of the bandage at the nape of the neck.





3. Bring the two ends around to the front and tie off at the centre of the forehead, using a reef knot (see opposite).
4. Steadying the casualty's head, draw the point down to tighten the bandage, then take it up to the crown of the head, and secure with a safety pin.

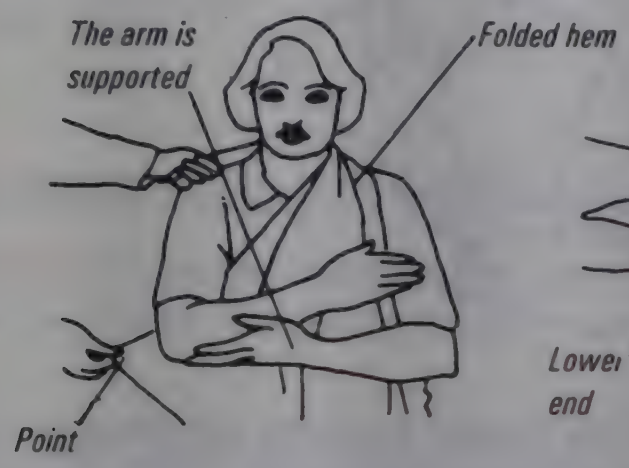
17. SLINGS

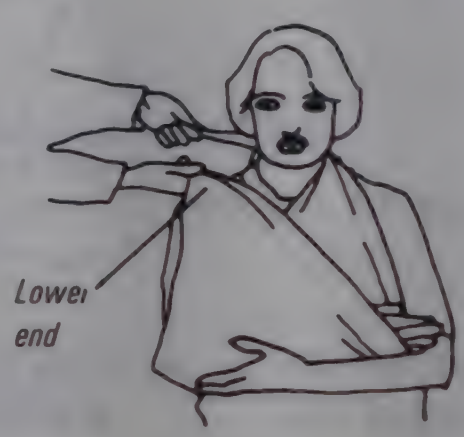
Slings can be made from triangular bandages, or any square metre of strong cloth, cut or folded diagonally. There are two different types of slings:

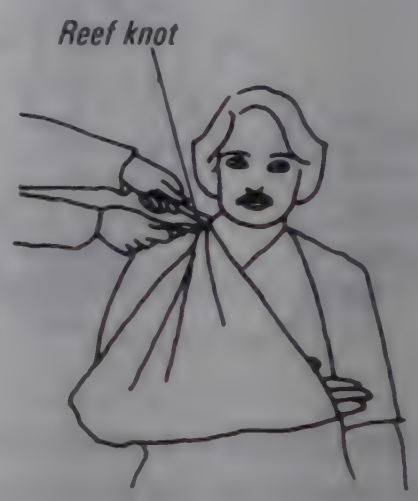
- Arm slings are used to support injured arms or wrists, or to take the weight of the arm off a dislocated shoulder.
- Elevation slings are used to support the arm in cases of collar bone or shoulder injuries. In addition because the hand is raised, elevation slings should be used for hand injuries, as they help to control bleeding and reduce swelling.

Apply slings from the casualty's injured side. The casualty should be seated, and supporting the injured arm, if possible.

APPLYING AN ARM SLING



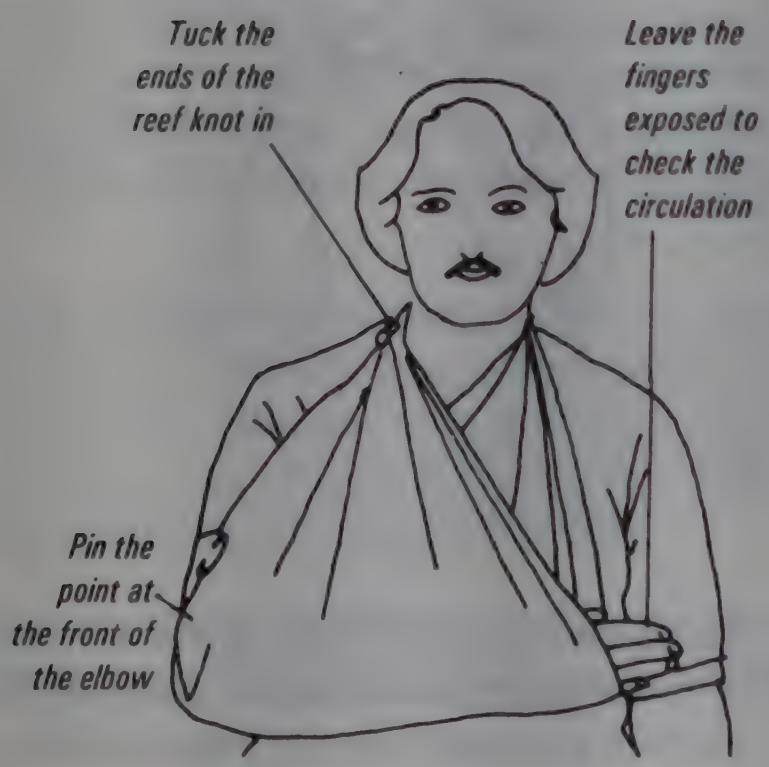




1. Place the bandage between the arm and the chest. Pull one end up around the back of the neck to the injured side.

2. Bring the lower end of the bandage up over the casualty's forearm to meet the other end at the shoulder.

3. Tie a reef knot at the hollow over the collar bone on the injured side, and tuck the ends underneath.



4. To secure the point bring it in front of the elbow. Tuck any loose bandage underneath it, and fasten it above the elbow with a safety pin.

   If you do not have a pin, twist the point round until the sling fits the elbow snugly. Tuck the point into the sling at the front of the arm.

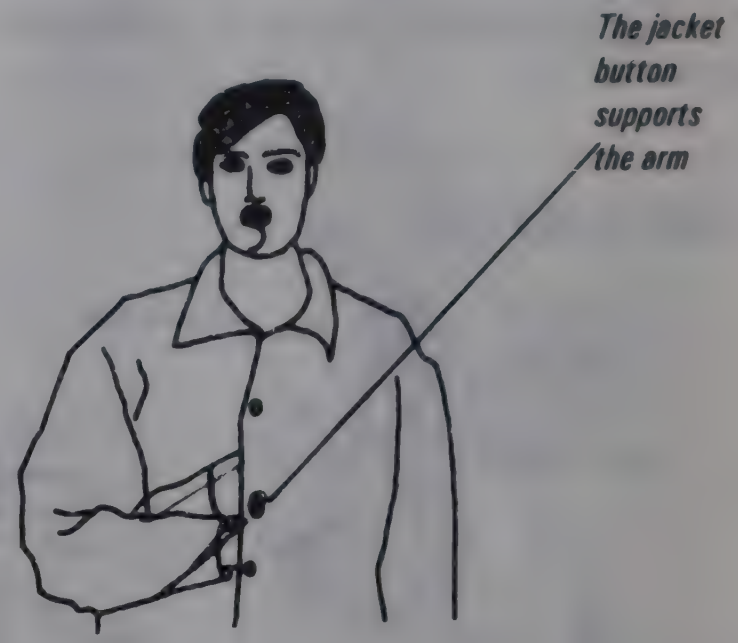
5. Check the circulation in the injured part. If the circulation is impeded, undo the sling and loosen any underlying bandages.

IMPROVISED SLINGS

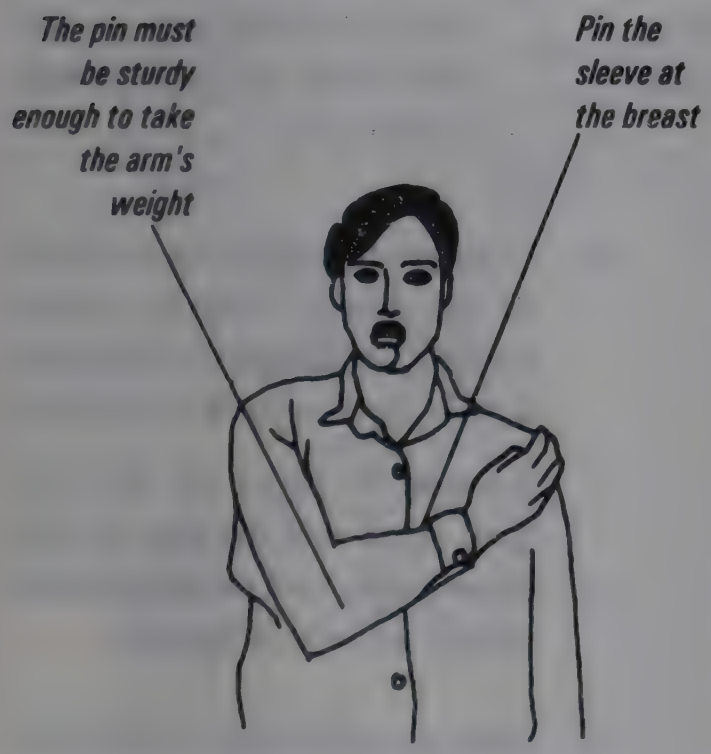
You can improvise a sling with a square piece of cloth. Make sure it is enough and large enough to support to arm. You can also improvise slings from a piece of your clothing, or adjust the casualty's clothes to support an injured upper limb.

TO IMPROVISE A SLING

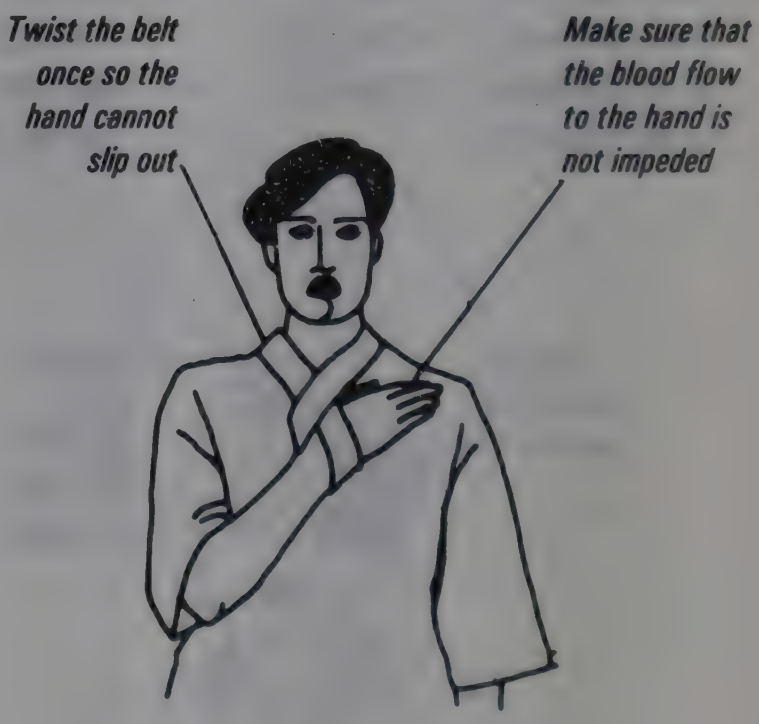
- If the casualty is wearing a jacket, undo it, and turn the hem of the jacket up and over the injured arm, and pin it to the jacket breast.



- If the casualty is wearing a button-up coat, jacket or waistcoat, you can undo a button and place hand of the injured arm inside the fastening.



- Pin the casualty's sleeve to the opposite breast of her shirt or jacket. I or an improvised elevation sling, pin the sleeve further up at the shoulder.

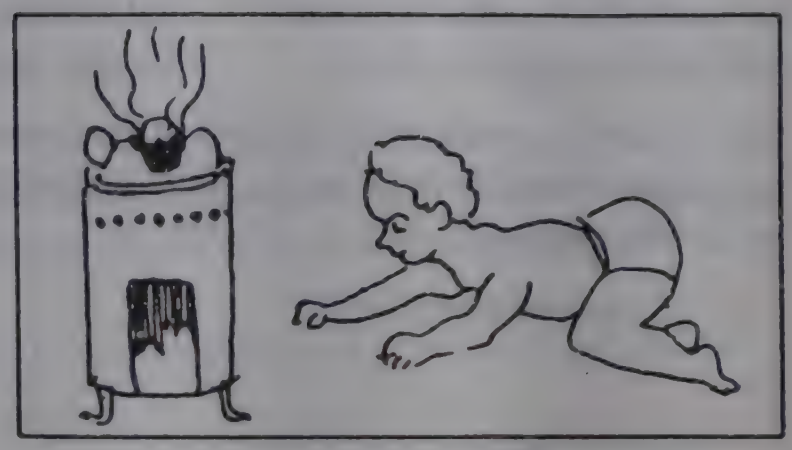


- You can use a belt, a tie, or a pair of braces or tights to make a "collar-and-cuff" support. Do not use this method if you suspect that the forearm is broken.

18. BURNS

Prevention :

Most burns can be prevented. Take special care with children :



- Do not let small babies go near a fire.
- Keep lamps and matches out of reach.
- Turn handles of pans on the stove so children cannot reach them

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MINOR BURNS THAT DO NOT FORM BLISTERS (1ST DEGREE)

To help ease the pain and lessen damage caused by a minor burn, put the burned part in cold water **at once**. No other treatment is needed. Take aspirin for pain.

BURNS THAT CAUSE BLISTERS (2ND DEGREE)

Do not break blisters.

If the blisters are broken, wash gently with soap and boiled water that has been cooled. Sterilize a little Vaseline by heating it until it boils and spread it on a piece of sterile gauze. Then put the gauze on the burn.

If there is no Vaseline, put some gentian violet, leave the burn uncovered

It is very important to keep the burn as clean as possible. Protect it from dirt, dust, and flies

If signs of infection appear - pus, bad smell, fever, or swollen lymph nodes, apply compresses of warm salt water (1 teaspoon salt to 1 litre water) 3 times a day. Boil both the water and cloth before use. With great care, remove the dead skin and flesh. You can spread on a little antibiotic ointment such as Neosporin. In severe cases, consider taking an antibiotic such as penicillin or cotrimoxazole by mouth.

DEEP BURNS (3RD DEGREE) that destroy the skin and expose raw or charred flesh are always serious, as are any burns that cover large areas of the body. Take the person to a centre at once. In the meantime wrap the burned part with a very clean cloth or towel.

If it is possible to get medical help, treat the burn as described above. If you **do not have vaseline, put some gentian violet and leave the burn in the open air**, covering it only with a loose cloth or sheet to protect it from dust and flies. Keep the cloth very clean and change it each time it gets dirty with liquid or blood from the burn. Give penicillin.

Never put grease, fat, hides, coffee, herbs, or faeces on a burn.

SPECIAL PRECAUTIONS FOR VERY SERIOUS BURNS

Any person who has been burned can easily go into shock because of combined pain, fear, and the loss of body fluids from the oozing burn.

Comfort and reassure the burned person. Give him aspirin for the pain and codeine if you can get it. Bathing open wounds in slightly salty water also helps calm pain. Put 1 teaspoon of salt for each litre of boiled (and cooled) water.

Give the burned person plenty of liquid. If the burned area is large (more than twice the size of his hand), make up the following drink.

To a liter of water, add :

Half a teaspoon of salt

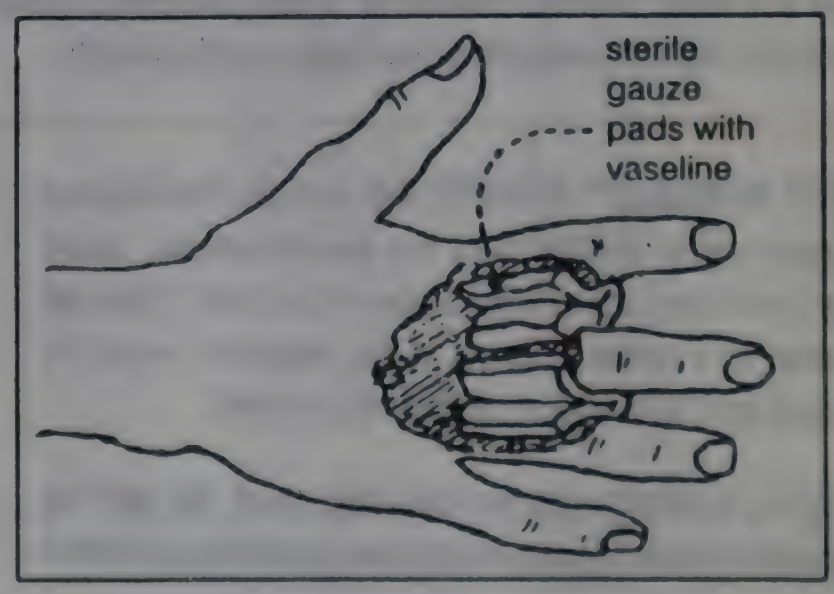
And half a teaspoon of bicarbonate of soda

Also put in 2 or 3 tablespoons of sugar or honey and some orange or lemon juice if possible.

The burned person should drink this as often as possible, until he urinates frequently. It is important for persons who are badly burned to eat foods rich in protein. They should also eat all other foods.

BURN AROUND THE JOINTS

When someone is badly burned between the fingers, in the armpit, or at other joints, gauze pads with vaseline on them should be put between the burned surface to prevent them from growing together as they heal. Also, fingers, arms, and legs should be straightened completely several times a day while healing. This is painful but helps prevent stiff scars that limit movement.



19. BROKEN BONES (FRACTURES)

When a bone is broken, the most important thing to do is keep the bone in a fixed position. This prevents more damage and lets it mend.

Before trying to move or carry a person with a broken bone, keep the bones from moving with splints, strips of bark, or a sleeve of cardboard. Later a plaster cast can be put on the limb at a health centre, or perhaps, it will need a trained doctor to 'set' the bones back.

HOW LONG DOES IT TAKE FOR BROKEN BONES TO HEAL?

The worse the break or the older the person, the longer healing takes. Children's bones mend rapidly. Those of old people sometimes never join. A broken arm should be kept in a cast for about a month, and no force put on it for another month. A broken leg should remain in a cast for about 2 months.

BROKEN THIGH BONE

A broken upper leg often needs special attention, it is best to splint the whole body like this:

and to take injured person to a health centre at once.

BROKEN NECKS AND BACKS

If there is any chance a person's neck or back has been broken. Be very careful when moving him. Try not to change his position, if possible, bring a health worker before moving him. If you move him, do so without bending his back or neck. For instructions on how to move the injured person, see the page 91.

BROKEN RIBS

These are very painful, but almost always heal on their own. It is better not to splint or bind the chest. The best treatment is to take aspirin - and rest. It may take months before the pain is gone completely.

A broken rib does often puncture a lung. But if the person bleeds or develops breathing difficulties, use antibiotics or (cotrimoxazole or penicillin) and seek medical help.

BROKEN BONES THAT BREAK THROUGH THE SKIN (COMPOUND FRACTURES)

Since the danger of infection is great in these cases, it is always better to get help from a health worker or doctor in caring for the injury. Clean the wound and the exposed bone very thoroughly with boiled water.

Never put the bone back into the wound until the wound and the bone are absolutely clean. (To be done by a doctor.)

Splint the limb to prevent more injury.

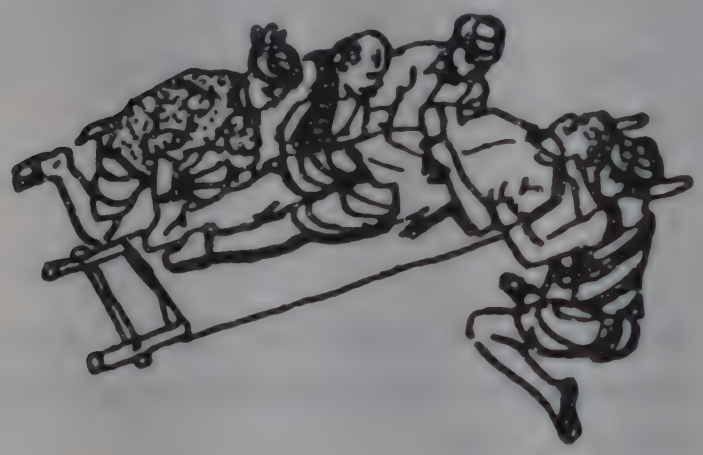
- If the bone has broken the skin, use an antibiotic immediately to prevent infection: penicillin or ampicillin in high doses

CAUTION.: Never rub or massage a broken limb or a limb that may possibly be broken.

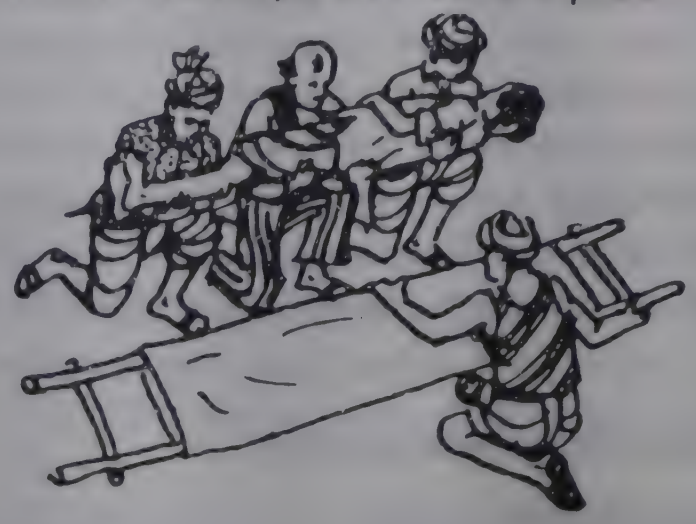
20. HOW TO MOVE A BADLY INJURED PERSON

- With great care, lift the injured person without bending him anywhere

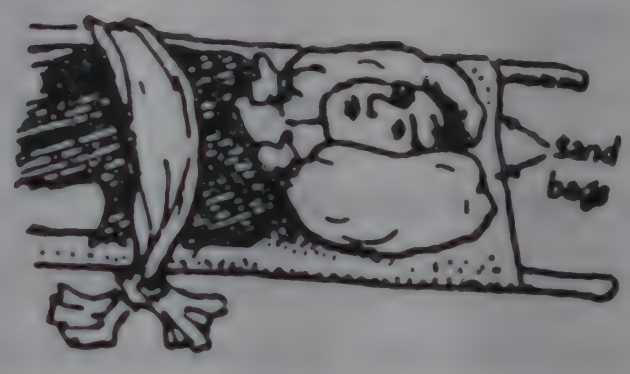
- With the help of everyone, place the injured person carefully on the stretcher.



Have another person put the stretcher in place.



- If the neck is injured or broken, put bags of sand or tightly folded clothing on each side of the head to keep it from moving.



DISLOCATIONS (BONES THAT HAVE COME OUT OF PLACE AT A JOINT)

Three important points of treatment :

- Try to put the bone back into place. The sooner the better.
- Keep it bandaged firmly in place so it does not slip out again (about a month)
- Avoid forceful use of the limb long enough for the joint to heal completely (2 or 3 months)

21. POISONOUS SNAKE BITE

If one sees fang marks, then one knows that it is a poisonous snake bite. Most often, the bite marks are not so clear. There may be just one fang mark, or just a row of teeth marks, or a ragged tear at the site of the wound. When in doubt always look for the local and general signs of poisoning, and keep the person under observation for at least one day. The poison from cobra and kart affects the nervous system. The viper venom affects the blood and prevents it from clotting. Krait venom can also affect blood.

People often believe that certain harmless snakes are poisonous. DO NOT KILL NON-POISONOUS SNAKES, because they do no harm. On the contrary, they kill mice and other pests that do lots of damage. Some even kill poisonous snakes.

Signs of poisonous snake bite

Common cobra or krait :

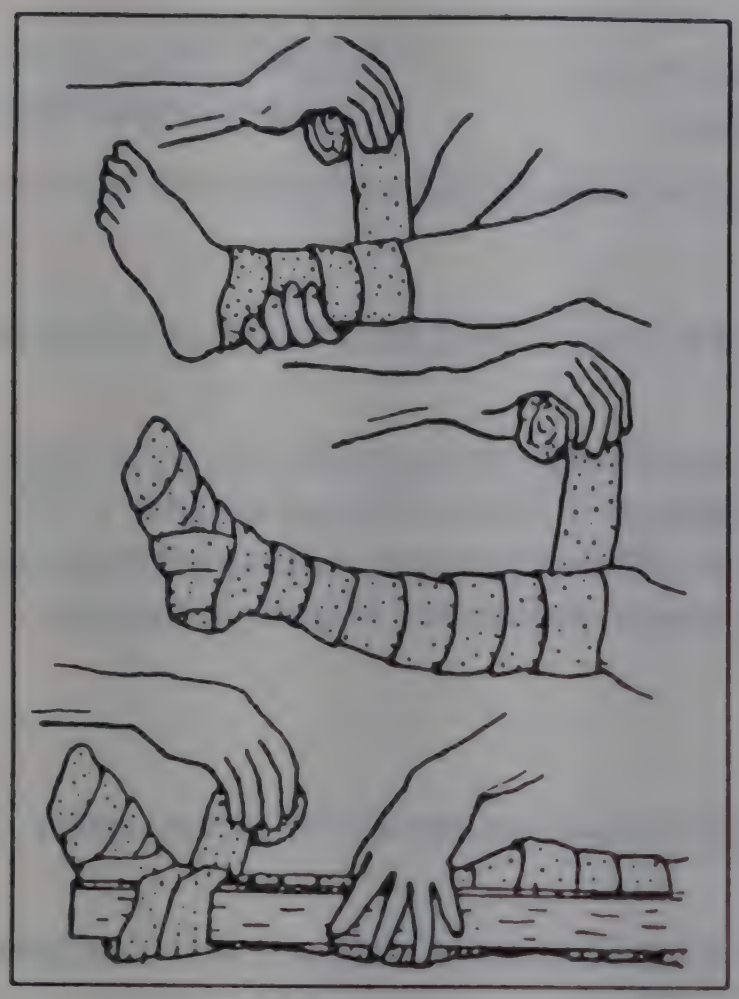
- Pain at the site of bite. There may also be pain in abdomen as well as diarrhoea.
- There is seldom any local swelling.
- Vomiting, low blood pressure and collapse.
- Muscle weakness such as the muscles around the eyes (drooping of eyelid-ptosis). The person may start seeing double (double vision) and may develop a squint. He may not be able to swallow anything.
- Cough, respiratory paralysis/ failure leading to death. (cough indicates severe poisoning and may not appear until 10 hours after the bite).

Russels viper and saw-scaled viper :

- Pain may be quite severe and last for many days
- Local swelling starts almost immediately but may not develop up to two hours after the bite
- Vomiting, low blood pressure and abnormal bleeding from or into any site may occur within 15 minutes.
- Increase in local swelling which may become severe/ massive over 2-3 days with bruising.
- Local tissue necrosis with an offensive, rotten smell
- Blister formation around the site and spreading blister suggest a large dose of venom and this may precede necrosis.
- Shock and haemorrhage may occur up to a week after the bite if antivenin is not given.

Treatment for poisonous snakebite.

1. Stay quiet; do not move the bitten part. The more it is moved, the faster the poison will spread through the body. If the bite is on the foot, the person should not walk at all. Send for medical help.



2. Wrap the bitten area with a wide bandage or clean cloth to slow the spread of poison. Keeping the arm or leg very still, wrap it tightly, but not so tight that it stops the pulse at the wrist or on top of the foot. If you cannot feel the pulse, loosen the bandage a little.
3. Wind the bandage over the hand or foot, and up the whole arm or leg. Make sure you can still feel the pulse.
4. Then, put on a splint to prevent the limb from moving. Keep the wounded part below the level of heart.
5. Carry the person, to the nearest health centre. If you can, also take the snake, because identifying a poisonous snake makes the decision of antivenom easier. If an antivenom is needed, leave the bandage on until the injection is ready, and take all precautions for allergic shock. If there is no antivenom, remove the bandage.
6. Give paracetamol, not aspirin, for pain. If possible, give tetanus vaccine. If the bite becomes infected, give penicillin.
7. Also, ice helps to reduce pain and slow the poison. Wrap the arm or leg with a plastic sheet and a thick cloth. Then pack crushed ice around it. (Too much cold can damage skin flesh. If it gets so cold it aches, let the person decide when to remove the ice for a few minutes.)

• Have antivenoms for snakes in your area ready and know how to use them - before someone is bitten!

Poisonous snakebite is dangerous. Send for medical help - but always do the things explained above at once. Antivenom must be given immediately especially for cobra bites. Most folk remedies for snakebite do little if any good. Never drink alcohol after snakebite. It makes things worse! Never make any cut or such the poison from bitten part.

Note : You can get polyvalent antivenom which is effective against the above snakebites from: The Haffekine institute, Acharya Danda Marg Parel, Bombay 400 012, India.

Have snakebite antitoxin ready and study how to use it ahead of time - before someone is bitten!

Cold chain must be maintained during transport of antivenom.

22. BEE AND WASP STINGS

In most cases these stings are not dangerous, put they are extremely painful. In some persons, they cause allergic shock (See page). The area of the sting becomes red, hot, swollen, and painful.

Treatment

- Apply hot compresses on the area of the sting
- For pain give aspirin and antihistamine tablets
- If signs of shock develop, treat as for allergic shock

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23. SCORPION STING

Some scorpions are far more poisonous than others. To children under 5 years old, scorpion stings can be dangerous, especially if the sting is on the head or body.

In adults, the first time is rarely dangerous. But if it is for the second time, the person may die, if not treated soon. The body becomes allergic with the first sting. So it is important to find out if he had an earlier scorpion sting. The person feels severe local pain immediately around the bite followed by redness, swelling and sometimes bruising. Children especially may have signs of shock, seating, nausea, vomiting and difficulty in breathing.

What to do for scorpion stings:

If it is for the first time in an adult, do the following:

* Given aspirin and if possible, put ice on the sting or apply firm pressure bandage to prevent spread of venom.
* Antihistamine tablets can also be given. If the sting is for a second time in an adult, or is in children under five, do the following.
* **Get Medical help fast.**
* If breathing has stopped, do mouth-to-mouth breathing.
* If the person is in shock, treat the shock.
* If the child who was stung is very young, or has been stung on the main part of the body, or if the sting is for the second time - seek medical help fast.

24. INSECTICIDE POISONING

If you suspect poisoning, do the following **immediately:**

In a conscious person:

* Make the person vomit. Put your finger in his throat or tickle the back of his throat with a spoon, or make him drink warm water with a lot of salt in it. You may also give him a tablespoonful of syrup of ipecac, followed by one glass of water. If you have it, give him a cup of activated charcoal mixed in a cup of water in cast of a child. (for an adult, give 2 glasses of the mixture)
* If the person does not vomit, lay the person on a cot. Put in a well-greased stomach tube through the mouth and pour in to 2 liters of salt water through the funnel. Lower the end of the stomach tube below

the level of the bed. The liquid in the stomach will come out. Continue doing this till the liquid coming out is clean.

* Have him drink all he can of milk, beaten eggs, or flour mixed with water.
* If you have it, give him a tablespoon of powdered charcoal. Keep giving him more milk, eggs, or flour and water, and make him vomit until the vomit is clear.
* Seek medical help at once.

If the person is unconscious:

Do not make him vomit. If he has stopped breathing, then give mouth-to-mouth breathing. Seek medical help at once.